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A new orchard and
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A NEW ORCHARD and Garden:

OR

The beſt way for planting, grafting, and to make *any ground good, for a rich Orchard: Particularly in the North,* and generally for the whole kingdome of *England* as in nature, *reaſon, ſituation, and all probabilitie, may and doth appeare.*

With the Country Houſewifes Garden for herbs of common vſe, their *vertues, ſeaſons, profits, ornaments, varietie of knots, models for trees, and* plots for the beſt ordering of Grounds and Walkes.

AS ALSO

The Husbandry of Bees, with their ſeuerall vſes and annoyances, all being the experience of 48. yeeres labour, and now the third time corrected and much enlarged, by *William Lawſon.*

Whereunto is newly added the Art of propagating Plants, with the true ordering *of all manner of Fruits, in their gathering, carrying home, and preſeruation.*

Skill and paines bring fruitfull gaines.

Nemo ſibi natus.

Printed at *London* by *J. H.* for Francis Williams. 1626.

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L435

THE BEST, SVREST, AND READIEST WAY TO make a good *Orchard* and *Garden.*

CHAP. I.

Of the Gardner, and his Wages.

Whosoeuer desireth and endeuoureth to haue a pleasant, and profitable Orchard, must (if he be able) prouide himselfe of a Fruiterer, religious, honest, skilfull in that faculty, and therewithall painfull: By religious, I meane (because many thinke religion but a fashion or custome to goe to Church) maintaining, and cherishing things religious: as Schooles of learning, Churches, Tythes, Church-goods, and rights; and aboue all things, Gods word, and the Preachers thereof, so much as he is able, practising prayers, comfortable conference, mutuall instruction to edifie, almes, and other workes of Charity, and all out of a good conscience. Religious.

Honestie in a Gardner, will grace your Garden, and all your house, and helpe to stay vnbridled Seruingmen, giuing offence to none, not calling your name into question by dishonest acts, nor infecting your family by euill counsell or example. For there is no plague so infectious as Popery and knauery, he will not purloine your profit, nor hinder your pleasures. Honest.

Concerning his skill, hee must not be a Scholist, to make shew of or take in hand that, which he cannot performe, especially in so weighty a thing as an Orchard: than the which, there can be no humane thing more excellent, either for pleasure or profit, as shall (God willing) be proued in the treatise following. And what an hinderance shall it be, not onely to the owner, but to the common good, that the vnspeakable benefit of many hundred yeeres shall be lost, by the audacious attempt of an vnskilfull Arborist. Skilfull.

The Gardner had not need be an idle, or lazie Lubber, for so your Orchard being a matter of such moment, will not prosper. There will euer be some thing to doe. Weeds are alwayes growing. The great mother Painfull.

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mother of all liuing Creatures, the Earth, is full of seed in her bowels, and any stirring giues them heat of Sunne, and being laid neere day, they grow: Mowles worke daily, though not alwayes alike. Winter herbs at all times will grow, (except in extreme frost.) In Winter your young trees and herbs would be lightned of Snow, and your Allyes cleansed: drifts of snow will set Deere, Hares, and Conies, and other noysome beasts ouer your walls and hedges, into your Orchard. When Summer cloathes your borders with greene and peckled colours, your Gardner must dresse his hedges, and antike workes: watch his Bees, and hiue them: distill his Roses, and other herbs. Now begins Summer Fruit to ripe, and craue your hand to pull them. If he haue a Garden (as he must need) to keepe, you must needs allow him good helpe, to end his labours which are endlesse, for no one man is sufficient for these things.

Wages. Such a Gardner as will conscionably, quietly and patiently, trauell in your Orchard, God shall crowne the labors of his hands with ioyfulnesse, and make the clouds drop fatnesse vpon your trees, he will prouoke your loue, and earne his wages, and fees belonging to his place: The house being serued, fallen fruit, superfluity of herbs, and flowers, seeds, grasses, sets, & besides other offall, that fruit which your bountifull hand shall reward him withall, will much augment his wages, and the profit of your Bees will pay you backe againe.

If you be not able, nor willing to hire a Gardner, keepe your profits to your selfe, but then you must take all the paines: And for that purpose (if you want this faculty) to instruct you, haue I vndertaken these labours, and gathered these Rules, but chiefly respecting my Countries good.

CHAP. II.

Of the Soyle.

Kindes of trees. Fruit-Trees most common, and meetest for our northerne Countries: (as Apples, Peares, Cheries, Filberds, red and white Plums, Damsons and Bulles,) for we meddle not with Apricocks nor Peaches, nor scarcely with Quinches which will not like in our cold parts, unlesse they be helped with some reflex of Sunne, or other like meanes, nor with bushes, bearing berries, as Barberies, Goosberries, or Grosers, Raspberies, and such like, though the Barbery be wholesome, and the tree may be made great: doe require (as all other trees doe) a blacke, fat, mellow, cleane and well tempered soyle, wherein they may gather plenty of good sap. Some thinke the Hasell would haue a chanilie rocke, Soyle. and the Sallow, and Eller a waterish marish. The soile is made better by deluing, and other meanes, being well melted, and the wildnesse of the earth and weeds (for euery thing subiect to man, and seruing his vse, not well ordered, is by nature subiect to the curse) is killed by frosts and drought, by fallowing and laying on heapes, and if it be wild earth, with burning.

Barren Earth. If your ground be barren (for some are forced to make an Orchard of barren ground) make a pit three quarters deepe, and two yards wide, and round

round in such places where you would set your trees, and fill the same with fat, pure, and mellow earth, one whole foot higher than your Soyle, and therein set your Plant. For who is able to manure an whole Orchard plot, if it be barren? But if you determine to manure the whole site, this is your way: digge a trench halfe a yard deepe, all along the lower (if there be a lower) side of your Orchard plot, casting vp all the earth on the inner side, and fill the same with good short, hot, and tender mucke, and make such another Trench, and fill the same as the first, and so the third, and so throughout your ground. And by this meanes your plot shall be fertile for your life. But be sure you set your trees, neither in dung nor barren earth.

Your ground must be plaine, that it may receiue, and keepe moysture, not onely the raine falling thereon, but also water cast vpon it, or descending from higher ground by Sluices, Conduits, &c. For I account moysture in Summer very needfull in the soyle of trees, and drought in Winter. Prouided that the ground neither be boggie, nor the inundation be past 24. houres at any time, and but twise in the whole Summer, and so oft in Winter. Therefore if your plot be in a Banke, or haue a descent, make Trenches by degrees, Allyes, Walkes, and such like, so as the Water may be staied from passage. And if too much water be any hinderance to your walkes (for dry walkes doe well become an Orchard, and an Orchard them:) raise your walkes with earth first, and then with stones, as bigge as Walnuts: and lastly, with grauell. In Summer you need not doubt too much water from heauen, either to hurt the health of your body, or of your trees. And if ouerflowing molest you after one day, auoid it then by deepe trenching. Plaine. Moyst.

Some for this purpose digge the soyle of their Orchard to receiue moisture, which I cannot approue: for the roots with digging are oftentimes hurt, and especially being digged by some vnskilfull seruant: For the Gardiner cannot doe all himselfe. And moreouer, the roots of Apples and Peares, being laid neere day, with the heat of the Sunne, will put foorth suckers, which are a great hinderance, and sometimes with euill guiding, the destruction of trees, vnlesse the deluing be very shallow, and the ground laid very leuell againe. Cheries and Plums without deluing, will hardly or neuer (after twenty yeeres) be kept from such suckers, nor aspes.

Grasse also is thought needful for moysture, so you let it not touch the roots of your trees: for it will breede mosse, and the boall of your tree neere the earth would haue the comfort of the sunne and ayre. Grasse.

Some take their ground to be too moist when it is not so, by reason of waters standing thereon, for except in soure marshes, springs, and continuall ouer-flowings, no earth can be too moist. Sandy and fat earth will auoid all water falling by receit. Indeed a stiffe clay will not receiue the water, and therefore if it be grassie or plaine, especially hollow, the water will abide, and it will seeme waterish, when the fault is in the want of manuring, and other good dressing.

This plainnesse which we require, had need be naturall, because to force an vneuen ground will destroy the fatnesse. For euery soile hath his crust next day wherein trees and hearbs put their roots, and whence they draw their sap, which is the best of the soile, and made fertile with heat and cold, moisture and drought, and vnder which, by reason of the want of the said temperature, by the said soure qualities, no tree nor herbe (in a manner) will or can put root. As may be seene if in digging your Naturally plaine.

your ground, you take the weeds of most growth: as grasse or docks, (which will grow though they lye vpon the earth bare) yet bury them under the crust, and they will surely dye and perish, and become manure to your ground. This crust is not past 15. or 18. inches deepe in good ground, in other grounds lesse. Hereby appeares the fault of forced plaines, viz. your crust in the lower parts, is couered with the crust of the higher parts, and both with worse earth: your heights hauing the crust taken away, are become meerely barren: so that either you must force a new crust, or haue an euill soile. And be sure you leuell, before you plant, lest you be forced to remoue, or hurt your plants by digging, and casting amongst their roots. Your ground must be cleered as much as you may of stones, and grauell, wals, hedges, bushes, and other weeds.

Crust of the earth.

CHAP. III.

Of the Site.

There is no difference that I finde betwixt the necessity of a good soile, and a good site of an Orchard. For a good soile (as is before described) cannot want a good site, and if it doe, the fruit cannot be good, and a good site will much mend an euill soile. The best site is in low grounds, (and if you can) neere unto a Riuer.

Low and neere a Riuer.

High grounds are not naturally fat: And if they haue any fatnesse by mans hand, the very descent in time doth wash it away. It is with grounds in this case as it is with men in a common-wealth. Much will haue more: and once poore, seldome or neuer rich. The raine will scind, and wash, and the wind will blow fatnesse from the heights to the hollowes, where it will abide, and fatten the earth though it were barren before.

Hence it is, that we haue seldome any plaine grounds, and low, barren: and as seldome any heights naturally fertill. It is vnspeakable, what fatnesse is brought to low grounds by Inundations of waters. Neither did I euer know any barren ground in a low plaine by a Riuer side. The goodnesse of the soile in Howl or Hollow-dernes, in *Yorkeshire*, is well knowne to all that know the Riuer Humber, and the huge bulkes of their Cattell there. By estimation of them that haue seene the low grounds in Holland, and Zealand, they farre surpasse the most Countries in Europe for fruitfulnesse, and onely because they lye so low. The world cannot compare with *Ægypt* [a], for fertilitie, so farre as *Nilus* doth ouer-flow his bankes. So that a fitter place cannot be chosen for an Orchard, than a low plaine by a riuer side. For besides the fatnesse which the water brings, if any cloudy mist or raine be stirring, it commonly fals downe to, and followes the course of the Riuer. And where see we greater trees of bulk and bough, then standing on or neere the waters side? If you aske why the plaines in Holdernes, & such countries are destitute of woods? I answer, that men and cattell (that haue put trees thence, from out of Plaines to void corners) are better then trees. Our old fathers can tell us, how woods are decaied, & people in the roomth of trees multiplied. I haue stood somewhat long in this point, because some doe vtterly condemne a moist soile for fruit-trees.

[a] Psal. 1. 3. Eze. 17. 8. Eccl. 39. 17.

Markham.

A low

A low ground is good to auoid the danger of Winds, both for shaking downe your vnripe fruit, and blowing down your trees. Fruit blown vnripe, are small worth: and though they be ripe, yet being bruised with the fall (especially if they be big) they are not good but for present vse. Trees the most (that I know) being loaden with wood, for want of proyning, and growing high, by the vnskilfulnesse of the Arborist, must needs be in continuall danger of the South-west, West, and North-west winds, especially in September and March, when the aire is most temperate from extreme heat, and cold; which are deadly enemies to great winds. Wherefore chuse your ground low. Or if you be forced to plant in a higher ground, let high and strong wals, houses, and Trees, as Wall-nuts, Plane-trees, Okes, and Ashes, placed in good order, be your fence for winds. Winds. chap. 13.

The sucken of your Dwelling-house, descending into your Orchard (if it be cleanly conueighed) is good.

The Sunne (in some sort) is the life of the world. It maketh proud growth, and ripens kindly, and speedily, according to the golden tearme; *Annus fructificat, non tellus.* Therefore in the Countries, neerer approaching the *Zodiake*, the Sunnes habitation, they haue better, and sooner ripe fruit, then we that dwell in these frozen parts. Sunne.

This prouoketh most of our great Arborists, to plant Apricockes, Cheries, and Peaches, by a wall, and with tacks, and other meanes to spread them vpon, and fasten them to a wall, to haue the benefit of the immoderate reflexe of the Sun, which is commendable, for the hauing of faire, good, and soone ripe fruit. But let them know it is more hurtfull to their trees then the benefit they reape thereby can require; as not suffring a Tree to liue the tenth part of his age. It helpes Gardners to worke, for first the wall hinders the roots, because into a dry and hard wall of earth or stone, a tree will not, nor cannot put any root to profit, but especially it stops the passage of sap, whereby the bark is wounded, and the wood, and diseases grow, so that the tree becomes short of life. For as in the body of a man, the leaning or lying on some member, whereby the course of bloud is stopt, makes that member as it were dead for the time, till the bloud returne to his course, and I thinke, if that stopping should continue any time, the member would perish for want of bloud (for the life is in the bloud) & so endanger the body: so the sap is the life of the tree, as the bloud is to mans body; neither doth the tree in Winter (as is supposed) want his sap, no more then mans body his bloud, which in Winter, and time of sleep drawes inward. So that the dead time of Winter, to a tree, is but a night of rest: for the tree at all times, euen in Winter is nourished with sap, and groweth as well as mans body. The chilling cold may well some little time stay, or hinder the proud course of the sap, but so little and so short a time, that in euery calme, and mild season, euen in the depth of Winter (if you marke it) you may easily perceiue the sap to put out, and your trees to increase their buds, which were formed in the summer before, and may easily then be discerned: for leaues fall not off, till they be thrust off with the knots or buds, whereupon it comes to passe that trees cannot beare fruit plentifully two yeeres together, and make themselues ready to blossome against the seasonablenesse of the next Spring. Trees against a wall.

And if any frost be so extreme, that it stay the sap too much, or too long, then it kils the forward fruit in the very bud, and sometimes the

tender

tender leaues and twigs, but not the tree. Wherefore (to returne) it is perillous to stop the sap. And where, or when, did you euer see a great tree packt on a wall? Nay, who did euer know a tree so vnkindly splat, come to age? I haue heard of some, that out of their imaginary cunning, haue planted such Trees on the North side of the wall, to auoid drought, but the heat of the Sunne is as comfortable (which they should haue regarded) as the drought is hurtfull. And although water is a soueraigne remedy against drought, yet want of Sun is no way to be helped. Wherefore to conclude this Chapter, let your ground lie so, that it may haue the benefit of the south, and west Sunne, and so low and close, that it may haue moisture, and increase his fatnesse (for trees are the greatest suckers and pillers of earth) and (as much as may be) free from great winds.

CHAP. IIII.

Of the Quantitie.

IT would be remembred what a benefit riseth, not onely to euery particular owner of an Orchard but also to the common-wealth, by Fruit, as shall be shewed in the 16. chapter (God willing) whereupon must needs follow: the greater the Orchard is (being good and well kept) the better it is, for of good things, being equally good, the biggest is the best. And if it shall appeare, that no ground a man occupieth (no, not the Corne-field) yeeldeth more gaine to the purse, and house-keeping (not to speake of the vnspeakable pleasure) quantity for quantity. than a good Orchard (besides the cost in planting, and dressing an Orchard, is not so much by farre, as the labour and feeding of your Corne-fields, nor for durance of time, comparable, besides the certainty of the one before the other) I see not how any labour, or cost in this kind, can be idly or wastefully bestowed, or thought too much. And what other thing is a Vineyard (in those countries where Vines doe thriue) than a large Orchard of trees bearing fruit? Or what difference is there in the iuice of the Grape, and our Cyder and Perry, but the goodnesse of the Soile and clime where they grow? which maketh the one more ripe, and so more pleasant then the other. Whatsoeuer can be said for the benefit rising from an Orchard, that makes for the largenesse of the Orchards bounds. And (me thinkes) they doe preposterously, that bestow more cost and labours, and more ground in and vpon a Garden than vpon an Orchard, whence they reape and may reape doth more pleasure and more profit, by infinite degrees. And further, that a Garden neuer so fresh, and faire, and well kept, cannot continue without both renewing of the earth, and the herbs often, in the short and ordinary age of a man: whereas your Orchard well kept shall dure diuers hundred yeeres, as shall be shewed chapter 14. In a large Orchard there is much labour saued, in fencing, and otherwise: for three little Orchards, or few trees, being (in a manner) all out-sides, are so blasted and dangered, and commonly in keeping neglected, and require a great fence; whereas in great Orchards, trees are a mutuall defence one to another, and the keeping is regarded, and lesse fencing serues six acres together, than three in seuerall inclosures.

Orchard as good as a corn-field.

Compared with a Vine-yard.

Compared with a garden.

Now

Now what quantity of ground is meetest for an Orchard can no man prescribe, but that must be left to euery mans seuerall iudgement, to be measured according to his ability and will, for other necessaries besides fruit must be had, and some are more delighted with Orchards then others.

What quantity of ground.

Let no man hauing a fit plot plead pouerty in this case, for an Orchard once planted will maintaine it selfe, and yeeld infinite profit besides. And I am perswaded, that if men did know the right and best way of planting, dressing, and keeping trees, and felt the profit and pleasure thereof, both they that haue no Orchards would haue them, and they that haue Orchards, would haue them larger, yea fruit trees in their hedges, as in Worstershire, &c. And I thinke, that the want of planting, is a great losse to our common-wealth, & in particular, to the owners of Lordships, which Landlords themselues might easily amend, by granting longer terme, and better assurance to their Tenants, who haue taken vp this Prouerbe: Botch and sit, Build and flit: for who wil build, or plant for another mans profit? Or the Parliament might enioyne euery occupier of grounds, to plant and maintaine for so many acres of fruitfull ground, so many seuerall trees or kinde of trees for fruit. Thus much for quantity.

Want is no hindrance.

How Landlords, by their tenants, may make flourishing orchards in England.

CHAP. V.

Of the Forme.

The goodnesse of the Soile, and Site, are necessary to the well being of an Orchard simply, but the forme is so farre necessary, as the owner shall thinke meet, so that kinde of forme wherewith euery particular man is delighted, we leaue it to himselfe, *suum cuique pulchrum.* The forme that men like in generall is a square, for although roundnesse be *forma perfectissima*, yet that principle is good where necessity by art doth not force some other forme. Now for as much as one principall end of Orchards is recreation by walkes, and vniuersally walkes are straight, it followes that the best forme must be square, as best agreeing with straight walkes: yet if any man be rather delighted with some other forme, or if the ground will not beare a square, I discommend not any forme so it be formall. And a square may be drawne out of any forme to make streight walkes; and no forme of it selfe is either good or bad for the trees. If within one large square the Gardner shall make one round Labyrinth or Maze with some kinde of Berries, it will grace your forme, so there be sufficient roomth left for walkes, so will foure or moe round knots doe. For it is to be noted, that the eye must be pleased with the forme. I haue seene squares rising by degrees with staies from your houseward, according to this forme which I haue, *Crassa quod aiunt Minerua*, with an vnsteady hand, rough hewen, for in forming the Country Gardners, the better sort may vse better formes, and more costly worke. What is needfull more to be said, I referre that all (concerning the Forme) to the chapter 17. of the ornaments of an Orchard.

The usuall forme is a square.

CHAP.

A. All these squares must bee set with trees, the Gardens & other ornaments must stand in spaces betwixt the trees, & and in the borders and fences.

B. Trees 20. yards asunder.

C. Garden knot.

D. Kitchen garden.

E. Bridge.

F. Conduit.

G. Staires.

H. Walkes set with great wood thicke.

I. Walkes set with great wood round about your Orchard.

K. The out fence.

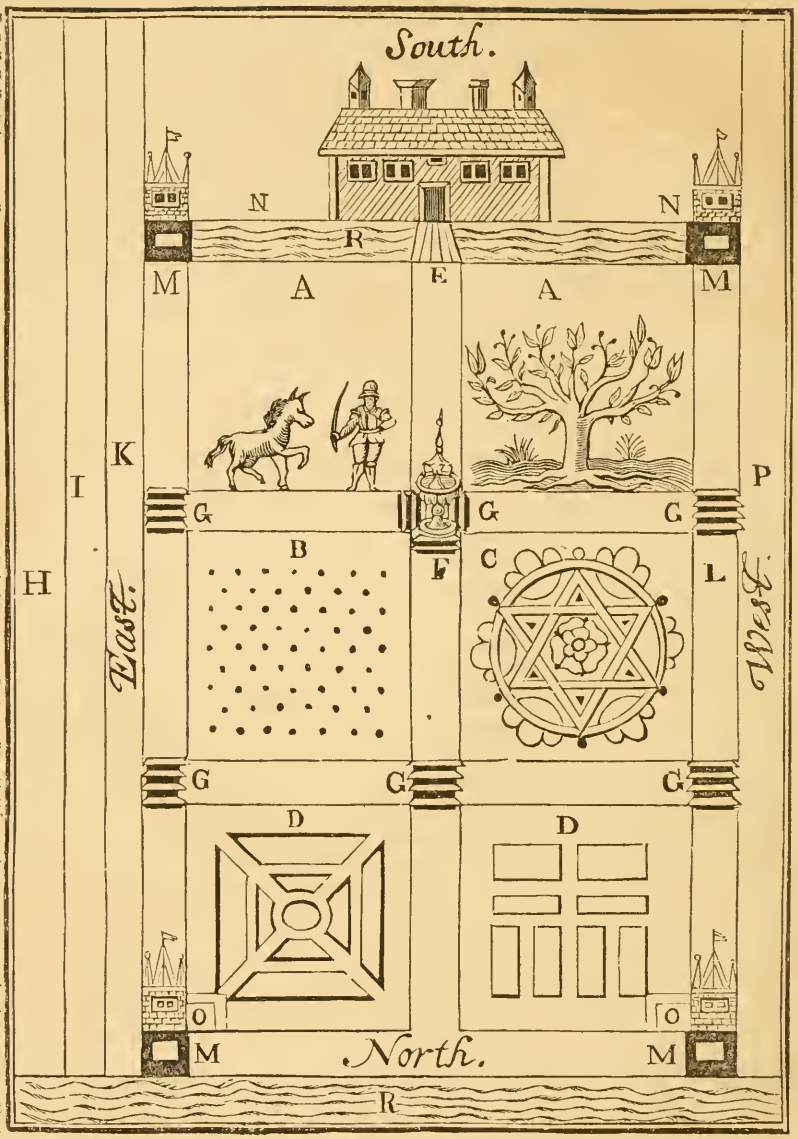
L. The out fence set with stone fruit.

M. Mount. To force earth for a mount, or such like, set it round with quicke; and lay boughs of trees strangely intermingled, tops inward with the earth in the middle.

N. Still-house.

O. Good standing for Bees, if you haue an house.

P. If the Riuer run by your doore, and vnder your mount it will be pleasant.



CHAP.

CHAP. VI.

Of Fences.

ALL your labour past and to come about an Orchard is lost vnlesse you fence well. It shall grieue you much to see your yong sets rubd loose at the roots, the barke pild, the boughs and twigs cropt, your fruit stolne, your trees broken, and all your many yeeres Labours and hopes destroyed, for want of Fences. A chiefe care must be had in this point. You must therefore plant in such a soile, where you may prouide a conuenient, strong, and seemely fence. For you can possesse no goods, that haue so many enemies as an Orchard, look chapt. 13. Fruits are so delightsome, and desired of so many (nay, in a manner of all) and yet few will be at cost and take paines to prouide them. Fence well therefore, let your plot be wholly in your owne power, that you make all your fence your selfe: for Neighbours fencing is none at all, or very carelesse. Take heede of a doore or window (yea of a wall) of any other mans into your Orchard: yea, though it be nailed vp, or the wall be high, for perhaps they will proue theeues.

Effect of euill fences.

Let the fence be your owne.

All Fences commonly are made of Earth, Stone, Bricke, Wood, or both earth and wood. Dry wall of earth, and dry Ditches, are the worst fences saue pales or railes, and doe waste the soonest, vnlesse they be well copt with glooe and morter, whereon at Mighill=tide it will be good to sow Wall=flowers, commonly called Bee=flowers, or winter Gilly=flowers, because they will grow (though amongst stones) and abide the strongest frost and drought, continually greene and flowring euen in Winter, and haue a pleasant smell, and are timely, (that is, they will floure the first and last of flowers) and are good for Bees. And your earthen wall is good for Bees dry and warme. But these fences are both vnseemely, euill to repaire, and onely for neede, where stone or wood cannot be had. Whosoeuer makes such Wals, must not pill the ground in the Orchard, for getting earth, nor make any pits or hollowes, which are both vnseemely and vnprofitable. Old dry earth mixt with sand is best for these. This kinde of wall will soone decay, by reason of the trees which grow neere it, for the roots and boales of great trees, will increase, vndermine, and ouerturne such wals, though they were of stone, as is apparant by Ashes, Rountrees, Burt=trees, and such like, carried in the chat, or berrie, by birds into stone wals.

Kinds of fences. Earthen wals.

Fences of Dead=wood, as pales, will not last, neither will railes either last or make good fence.

Pale and Raile.

Stone=wals (where stone may be had) are the best of this sort, both for fencing, lasting, and shrouding of your yong trees. But about this must you bestow much paines and more cost, to haue them handsome, high and durable.

Stone wals.

But of all other (in mine opinion) Quickwood, and Moats or Ditches of water, where the ground is leuell, is the best fence. In vnequall grounds, which will not keepe water, there a double ditch may be cast, made streight and leuell on the top, two yards broad for a faire walke, fiue or six foot higher then the soyle, with a gutter on either side, two yards wide,

Quicke wood & Moates.

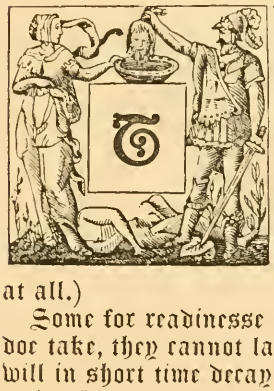
wide, and foure foot deepe set without, with three or foure chesse of Thornes, and within with Cherry, Plumme, Damson, Bullys, Filberds (for I loue these trees better for their fruit, and as well for their forme, as pruit) for you may make them take any forme. And in euery corner (and middle if you will) a mount would be raised, whereabout the wood may claspe, powdered with wood-bine: which will make with dressing a faire, pleasant, profitable, and sure fence. But you must be sure that your quicke thornes either grow wholly, or that there be a supply betime, either with planting new, or plashing the old where want is. And assure your selfe, that neither wood, stone, earth, nor water, can make so strong a fence, as this after seuen yeeres growth.

Moates. Moats, Fish-ponds, and (especially at one side a Riuer) within and without your fence, will afford you fish, fence, and moysture to your trees, and pleasure also, if they be so great and deep that you may haue Swans, and other water birds, good for deuouring of vermine, and a boat for many good vses. .

It shall hardly auaile you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will saue it best from noysome neighbours, liberality I say is the best fence; so iustice must restraine rioters. Thus when your ground is tempered, squared, and fenced, it is time to prouide for planting.

CHAP. VII.

Of Sets.



There is not one point (in my opinion) about an Orchard more to be regarded, than the choice getting and setting of good plants, either for readinesse of hauing good fruit, or for continuall lasting. For whosoeuer shall faile in the choise of good Sets, or in getting, or gathering, or setting his Plants, shal neuer haue a good or lasting Orchard. And I take want of skill in this facultie to be a chiefe hinderance to the most Orchards, and to many for hauing of Orchards at all.)

Slips. Some for readinesse vse slips, which seldome take root: and if they doe take, they cannot last, both because their root hauing a maine wound will in short time decay the body of the tree: and besides that roots being so weakly put, are soone nipt with drought or frost. I could neuer see (lightly) any slip but of Apples onely set for trees.

Bur-knot. A bur-knot kindly taken from an Apple tree, is much better and surer. You must cut him close at the root end, an handfull vnder the knot, Some vse in summer about *Lammas* to circumcise him, and put earth to the knot with hay-ropes, and in winter cut him off and set him, but this is curiosity, needlesse, and danger with remouing, and drought, and cut away all his twigs saue one, the most principall, which in setting you must leaue aboue the earth, burying his trunck in the crust of the earth for his root. It matters not much what part of the bough the twig growes out of. If it grow out of or neere the root end, some say such an Apple will haue no coare nor kernell. Or if it please the Plantor, he may let his

his bough be crooked, and leaue out his top end, one foot or somewhat more, wherein will be good grafting, if either you like not, or doubt the fruit of the bough (for commonly your Bur=knots are summer fruit) or if you thinke he will not, couer his wound safely.

The most vsuall kinde of Sets, is Plants with roots growing of kirnels of Apples, Peares, and Crabs, or stones of Cherries, Plummes, &c. remoued out of a Nursery, Wood, or other Orchard, into, and set in your Orchard in their due places. I grant this kinde to be better than either of the former, by much, as more sure and more durable. Wherein you must note, that in sets so remoued, you get all the roots you can, and without bruising of any; I vtterly dislike the opinion of those great Gardiners, that following their bookes would haue the maine roots cut away, for tops cannot grow without roots. And because none can get all the roots, and remouall is an hindrance, you may not leaue on all tops, when you set them: For there is a proportion betwixt the top and root of a tree, euen in the number (at least) in the growth. If the roots be many, they will bring you many tops, if they be not hindred. And if you vse to stowe or top your tree too much or too low, and leaue no issue, or little for sap, (as is to be seene in your hedges) it will hinder the growth of roots and boale, because such a kinde of stowing is a kinde of smothering, or choaking the sap. Great wood, as Oake, Elme, Ashe, &c. being continually kept downe, with sheeres, knife, axe, &c. neither boale nor root will thriue, but as an hedge or bush. If you intend to graffe in your Set, you may cut him closer with a greater wound, and neerer the earth, within a foot or two, because the graft or grafts will couer his wound. If you like his fruit, and would haue him to be a tree of himselfe, be not so bold: this I can tell you, that though you doe cut his top close, and leaue nothing but his bulke, because his roots are few, if he be (but little) bigger than your thumbe (as I wish all Plants remoued to be) he will safely recouer his wound within seuen yeeres; by good guidance that is: If the next time of dressing immediatly aboue his vppermost sprig, you cut him off aslope cleanely, so that the sprig stand on the backe side, (and if you can Northward, that the wound may haue the benefit of Sunne) at the vpper end of the wound: and let that sprig onely be the boale. And take this for a generall rule; Euery yong Plant, if he thriue, will recouer any wound aboue the earth, by good dressing, although it be to the one halfe, and to his very heart. This short cutting at the remoue, saues your Plants from winde, and neede the lesse or no staking. I commend not Lying or Leaning of Trees against Holds or Stayres; for it breedes obstruction of Sap and wounds incurable. All remouing of Trees as great as your arme, or aboue, is dangerous: though sometime some such will grow, but not continue long: Because they be tainted with deadly wounds, either in the root or top. (And a tree once throughly tainted is neuer good.) And though they get some hold in the earth with some lesser taw, or tawes, which giue some nourishment to the body of the tree: yet the heart being tainted, he will hardly euer thriue; which you may easily discerne by the blacknesse of the boughs at the heart, when you dresse your trees. Also, when hee is set with moe toys than the roots can nourish, the tops decaying, blacken the boughs, and the boughes the armes, and so the boale at the very heart. Or this taint in the remouall, if it kill not presently, but after some short time, it may be discerned by blacknesse or yellownesse in the barke, and a small hungred leafe. Or if your remoued Plant put forth

Vsuall Sets.

Maine roots cut. Stow sets remoued.

Generall rule.

Tying of Trees. Generall rule.

Signs of diseases. Cha. 13.

forth leaues the next and second Summer, and little or few sprayes, it is a great signe of a taint, and next yeeres death. I haue knowne a tree tainted in setting, yet grow, and beare blossomes for diuers yeeres: and yet for want of strength could neuer shape his fruit.

Suckers good sets.

Next vnto this, or rather equall with these Plants, are Suckers growing out of the roots of great Trees, which Cherries and Plums doe seldome or neuer want: and being taken kindly with their roots, will make very good Sets. And you may helpe them much by enlarging their roots with the tawes of the tree, whence you take them. They are of two sorts: Either growing from the very root of the tree: and here you must be carefull, not to hurt your tree when you gather them, by ripping amongst the roots; and that you take them cleane away: for these are a great and continuall annoyance to the growth of your tree: and they will hardly be cleansed. Secondly, or they doe arise from some taw: and these may be taken without danger, with long and good roots, and will soone become Trees of strength.

A Running Plant.

There is another way, which I haue not throughly proued, to get not onely Plants for grafting, but Sets to remaine for Trees, which I call a Running Plant: the manner of it is this: Take a root or kirnell, and put it into the middle of your plot, and the second yeere in the Spring, geld his top, if he haue one principall, (as commonly by nature they haue) and let him put forth onely foure Cyons toward the foure corners of the Orchard, as neere the earth as you can. If hee put not foure, (which is rare) stay his top till he haue put so many. When you haue such foure, cut the Stocke aslope, as is aforesaid in this Chapter, hard aboue the vppermost sprig, and keepe those foure without Cyons cleane and streight, till you haue them a yard and an halfe, at least, or two yards long. Then the next spring in grafting time, lay downe those foure spraies, towards the foure corners of your Orchard, with their tops in an heape of pure and good earth, raised as high as the root of your Cyon, (for sap will not descend) and a sod to keepe them downe, leauing nine or twelue inches of the top to looke vpward. In that hill he will put roots, and his top new Cyons, which you must spread as before, and so from hill to hill till he spread the compasse of your ground, or as farre as you list. If in bending, the Cyons cracke, the matter is small, cleanse the ground and he will recouer. Euery bended bough will put forth branches, and become Trees. If this plant be of a burre knot, there is no doubt. I haue proued it in one branch my selfe: and I know at Wilton in Cleeue-land a Peare-tree of a great bulke and age, blowne close to the earth, hath put at euery knot roots into the earth, and from root to top, a great number of mighty armes or trees, filling a great roomth, like many trees, or a little Orchard. Much better may it be done by Art in a lesse Tree. And I could not mislike this kinde, saue that the time will be long before it come to perfection.

Settes bought.

Many vse to buy Sets already grafted, which is not the best way: for first, All remoues are dangerous: Againe, there is danger in the carriage: Thirdly, it is a costly course of Planting: Fourthly, euery Gardiner is not trusty to sell you good fruit: Fiftly, you know not which is best, which is worst, and so may take most care about your worst trees. Lastly, this way keepes you from practise, and so from experience, in so good, Gentlemanly, Scholerlike, and profitable a Faculty.

The best Sets.

The onely best way (in my opinion) to haue sure and lasting Sets, is

neuer

neuer to remoue: for euery remoue is an hinderance, if not a dangerous hurt or deadly taint. This is the way: The Plot-forme being laid, and the Plot appointed where you will plant euery Set in your Orchard, digge the roomth, where your Sets shall stand, a yard compasse, and make the earth mellow and cleane, and mingle it with a few coale ashes, to auoid Wormes: and immediatly after the first change of the Moone, in the latter end of February, the earth being a fresh turned ouer, put in euery such roomth three or foure kirnels of Apples or Peares, of the best: euery kirnell in an hole made with your finger, finger-deepe, a foot distant one from another: and that day Moneth following, as many moe, (lest some of the former misse) in the same compasse; but not in the same holes. Hence (God willing) shall you haue roots enow. If they all, or diuers of them come vp, you may draw (but not dig) vp (nor put downe) at your pleasure, the next November. How many soeuer you take away, to giue or bestow elsewhere, be sure to leaue two of the proudest. And when in your second and third yeere you Graffe (if you Graffe then at all) leaue the one of those two vngrafted, lest in grafting the other you faile: For I finde by tryall, that after first or second grafting in the same Stocke, being mist (for who hits all) the third misse puts your Stocke in deadly danger, for want of issue of sap. Yea, though you hit in grafting, yet may your graffes with Winde or otherwise bee broken downe. If your graffes or graffe prosper, you haue your desire, in a Plant vnremoued, without taint, and the fruit at your owne choise, and so you may (some little earth being remoued) pull, but not digge vp the other Plant or Plants in that roomth. If your graffe or Stocke, or both perish, you haue another in the same place, of better strength to worke vpon. For thriuing without snub he will ouerlay your grafted Stocke much. And it is hardly possible to misse in grafting so often, if your Gardiner be worth his name.

Vnremoued how.

It shall not be amisse (as I iudge it) if your kirnels be of choice fruit, and that you see them come forward proudly in their body, and beare a faire and broad leafe in colour, tending to a greenish yellow (which argues pleasant and great fruit) to try some of them vngrafted: for although it be a long time ere this come to beare fruit, ten or twelue yeeres, or moe; and at their first bearing, the fruit will not seeme to be like his owne kinde: yet am I assured, vpon triall, before twenty yeers growth, such Trees will increase the bignesse and goodnesse of their fruit, and come perfectly to their owne kinde. Trees (like other breeding creatures) as they grow in yeeres, bignesse, and strength; so they mend their fruit. Husbands and Huswiues finde this true by experience, in the rearing of their yong Store. More then this, there is no tree like this for soundnesse and durable last, if his keeping and dressing be answerable. I grant, the readiest way to come soone to fruit is grafting: because in a manner, all your Graffes are taken of fruit-bearing Trees.

Sets vngrafted best of all.

Now when you haue made choise of your Sets to remoue, the ground being ready, the best time is, immediatly after the fall of the Leafe, in, or about the change of the Moone, when the sap is most quiet: for then the sap is in turning: for it makes no stay, but in the extremity of drought or cold. At any time in winter, may you transplant trees, so you put no Ice nor Snow to the root of your Plant in the setting: and therefore open, calme, and moist weather is best. To remoue, the leafe being ready to fall, and not fallen, or buds apparantly put forth in a moist, warme season,

Time of remouing.

General rule.

son, for need, sometime may doe well; but the safest is to walke in the plaine trodden path.

Some hold opinion that it is best remouing before the fall of the leafe, & I heare it commonly so practised in the South by our best Arborists, the leafe not fallen: & they giue the reason to be, that the descending of the sap will make speedie roots. But mark the reasons following, and I think you shall find no soundnesse, either in that position or practise, at least in the reason.

1. I say, it is dangerous to remoue when the sap is not quiet, for euery remoue giues a maine checke to the stirring sap, by staying the course thereof in the body of your plant, as may appeare in trees remoued anytime in Summer, they commonly die, nay hardly shall you saue the life of the most yong and tender plant of any kind of wood (scarcely herbs) if you remoue them in the pride of sap. For proud sap vniuersally staied, by remouall, euer hinders, often taints, and so presently, or in verie short time kils. Sap is like bloud in mans body, in which is the life, Chap. 3. pag. 5. If the bloud vniuersally be cold, life is excluded; so is sap tainted by vntimely remouall. A stay by drought, or cold, is not so dangerous (tho dangerous if it be extreme) because more naturall.

2. The sap neuer descends, as men suppose, but is consolidated and transubstantiated into the substance of the tree, and passeth (alwaies aboue the earth) vpward, not onely betwixt the barke and the wood, but also into & in both body and barke, tho not so plentifully, as may appeare by a tree budding, nay fructifying two or three yeers after he be circumcised, at the very root, like a Riuer that enlargeth his channell by a continuall descent.

3. I cannot perceiue what time they would haue the sap to descend. At Midsummer in a biting drought it staies, but descends not, for immediatly vpon moisture it maks second shoots, at (or before rather) Michaeltide, when it shapens his buds for next yeers fruit. If at the fal of the leafe, I grant, about that time is ye greatest stand (but not descent) of sap, which begins somwhat before the leafe fall, but not long, and therefore at that time must needs be the best remouing, not by reason of the descent, but stay of sap.

4. The sap in his course hath his profitable and apparent effects, as the growth of the Tree, couering of wounds, putting of buds, &c. Whereupon it followes, if the sap descend, it must needs haue some effect to shew it.

5. Lastly, boughs plasht and laid lower than the root, die for want of sap descending, except where it is forced by the maine streame of the sap, as in top boughs hanging like water in pipes, or except the plasht bough lying on the ground put roots of his own, yea vnder boughs which we commonly cal water-boughs, can scarcely get sap to liue, yea in time dye, because the sap doth presse so violently vpward, and therefore the fairest shoots and fruit are alwaies in the top.

Obiect. If you say that many so remoued thriue, I say that somewhat before the fall of the leafe (but not much) is the stand, for the fall and the stand are not at one instant, before the stand is dangerous. But to returne.

Remoue soone. The sooner in Winter you remoue your Sets, the better; the later the worse: For it is very perillous if a strong drought take your Sets before they haue made good their rooting. A Plant set at the Fall, shall gaine (in

(in a manner) a whole yeeres growth of that which is set in the Spring after.

I vse in the setting to be sure, that the earth be mouldy, (and somewhat moist) that it may run among the small tangles without straining or bruising: and as I fill in earth to his root, I shake the Set easily to and fro, to make the earth settle the better to his roots: and withall easily with my foot I put in the earth close; for ayre is noysome, and will follow concauities. Some prescribe Oats to be put in with the earth. I could like it, if I could know any reason thereof: and they vse to set their Plant with the same side toward the Sun; but this conceit is like the other. For first I would haue euery tree to stand so free from shade, that not onely the root (which therfore you must keepe bare from grasse) but body, boughs, and branches, and euery spray, may haue the benefit of Sun. And what hurt, if that part of the tree, that before was shadowed, be now made partaker of the heat of the Sunne? In turning of Bees, I know it is hurtfull, because it changeth their entrance, passage, and whole worke: But not so in Trees. The manner of setting.

Set as deepe as you can, so that in any wise you goe not beneath the crust. Looke Chap. 2. Set in the crust.

We spake in the second Chapter of moysture in generall: but now especially hauing put your remoued plant into the earth, powre on water (of a puddle were good) by distilling presently, and so euery weeke twice in strong drought, so long as the earth will drink, & refuse by ouerflowing. For moysture mollifies, and both giues leaue to the roots to spread, and makes the earth yeeld sap and nourishment, with plenty and facility. Nurses (they say) giue most and best milke after warme drinkes. If your ground be such that it will keepe no moysture at the root of your plant, such plant shall neuer liue, or but for a time. There is nothing more hurtfull for yong trees than piercing drought. I haue known trees of good stature after they haue beene of diuers yeers growth, and thriue well for a good time, perish for want of water, and very many by reason of taints in setting. Moyster good.

It is meet your sets and grafts be fenced, till they be as big as your arme, for feare of annoyances. Many wayes may sets receiue dammages, after they be set, whether they be grafted or vngrafted. For, although we suppose, that no noysome beast or other thing must haue accesse among your trees: yet by casualty, a Dog, Cat, or such like, or your selfe, or negligent friend bearing you company, or a shrewd boy, may tread or fall vpon a young and tender plant or graft. To auoid these and many such chances, you must stake them round a prettie distance from the set, neither so neere, nor so thicke, but that it may haue the benefit of Sunne, Raine, and Aire. Your stakes (small or great) would be so surely put, or driuen into the earth, that they breake not, if any thing happen to leane vpon them, else may the fall be more hurtfull, than the want of the fence. Let not your stakes shelter any weeds about your sets, for want of Sunne is a great hinderance. Let them stand so far off, that your grafts spreading receiue no hurt, either by rubbing on them, or of any other thing passing by. If your stock be long, and high grafted (which I much discommend (except in need) because there the sap is weake, and they are subiect to strong wind, and the lighting of birds) tie easily with a soft list three or foure pricks vnder the clay, and let their tops stand aboue the grafts, to auoid the lighting of Crowes, Pyes, &c. vpon Grafts must be fenced.

your

your grafts. If you sticke some sharpe thornes at the roots of your stakes, they will make hurtfull things keepe off the better. Other better fences for your grafts I know none. And thus much for Sets and Setting.

CHAP. VIII.

Of the distance of Trees.

Hurts of too neer planting.

Know not to what end you should prouide good ground, well fenced, and plant good sets; and when your trees should come to profit, haue all your labours lost, for want of due regard to the distance of placing of your trees. I haue seene manie trees stand so thicke, that one could not thriue for the throng of his neighbours. If you doe marke it, you shall see the tops of trees rubd off, their sides galled like a galled horses backe, and manie trees haue more stumps then boughs, and most trees no wel thriuing, but short, stumpish, & euill thriuing boughs: like a Corne=field ouer=seeded, or a towne ouer=peopled, or a pasture ouer=laid, which the Gardiner must either let grow, or leaue the tree verie few boughs to beare fruit. Hence small thrift, gals, wounds, diseases, and short life to the trees: and while they liue greene, little, hard, worme=eaten, and euill thriuing fruit arise, to the discomfort of the owners.

Remedy.

To preuent which discommoditie, one of the best remedies is, the sufficient and fit distance of trees. Therefore at the setting of your plants you must haue such a respect, that the distance of them be such, that euerie tree be not annoiance, but an helpe to his fellowes: for trees (as all other things of the same kinde) should shrowd, and not hurt one another. And assure your selfe that euerie touch of trees (as well vnder as aboue the earth) is hurtfull. Therfore this must be a generall rule in this Art: That no tree in an Orchard well ordered, nor bough, nor Cyon, drop vpon, or touch his fellowes. Let no man thinke this vnpossible, but looke in ye eleuenth chapter of dressing of trees. If they touch, the winde will cause a forcible rub. Yong twigs are tender; if boughs or armes touch and rub, if they are strong, they make great galls. No kind of touch therefore in trees can be good.

Generall rule.

All touches hurtfull.

The best distance of trees.

Now it is to be considered what distance amongst Sets is requisite, and that must be gathered from the compasse and roomth that each tree by probabilitie will take and fill. And herein I am of a contrarie opinion to all them, which practise or teach the planting of trees, that euer yet I knew, read, or heard of. For the common space between tree and tree is ten foot: if twentie foot, it is thought verie much. But I suppose twenty yards distance is small enough betwixt tree & tree, or rather too too little. For the distance must needs be as far as two trees are wel able to ouer=spread, and fill, so they touch not, by one yard at least. Now I am assured, and I know one Apple=tree, set of a slip *finger-great*, in the space of twentie yeeres (which I count a verie small part of a trees age, as is shewed Chapter 14.) hath spred his boughs eleuen or twelue yards compasse, that is, fiue or six yards on euery side. Hence I gather, that in forty or fiftie yeeres (which yet is but a small time of his age) a tree in good soile, well liking, by good dressing (for that is much auailable

to this purpose) will spread double at the least, viz. twelue yards on a side, which being added to twelue allotted to his fellow, make twenty and foure yards, and so farre distant must euery tree stand from another. And looke how farre a tree spreads his boughs aboue, so far doth he put his roots vnder the earth, or rather further, if there be no stop, nor let by wals, trees, rocks, barren earth, and such like: for an huge bulk, and strong armes, massie boughs, many branches, and infinite twigs, require wide-spreading roots. The top hath the vast aire to spread his boughs in, high and low, this way and that way: but the roots are kept in the crust of the earth, they may not goe downeward, nor vpward out of the earth, which is their element, no more than the Fish out of the Water, Camelion out of the Aire, nor Salamander out of the Fire. Therefore they must needs spread far vnder the earth. And I dare well say, if nature would giue leaue to man by Art, to dresse the roots of trees, to take away the tawes, and tangles, that lap and fret and grow superfluously and disorderly, (for euery thing *sublunary* is cursed for mans sake) the tops aboue being answerably dressed, we should haue trees of wonderfull greatnesse, and infinite durance. And I perswade my selfe that this might be done sometimes in Winter, to trees standing in faire plaines and kindly earth, with small or no danger at all. So that I conclude, that twenty foure yards are the least space that Art can allot for trees to stand distant one from another.

Parts of a tree.

If you aske me what vse shall be made of that waste ground betwixt tree and tree? I answer: If you please to plant some tree or trees in that middle space, you may; and as your trees grow contiguous, great and thicke, you may at your pleasure take vp those last trees. And this I take to be the chiefe cause, why the most trees stand so thicke. For men not knowing (or not regarding) this secret of needfull distance, and louing fruit of trees planted to their hands, thinke much to pull vp any, though they pine one another. If you or your heires or successors would take vp some great trees (past setting) where they stand too thicke, be sure you doe it about Midsummer, and leaue no maine roots. I destinate this space of foure and twenty yards, for trees of age and stature. More than this, you haue borders to be made for walkes, with Roses, Berries, &c.

Waste ground in an orchard.

And chiefly consider: that your Orchard, for the first twenty or thirty yeeres, will serue you for many Gardens, for Safron, Licoras, roots, and other herbs for profit, and flowers for pleasure: so that no ground need be wasted if the Gardiner be skilfull and diligent. But be sure you come not neere with such deepe deluing the roots of your trees, whose compasse you may partly discerne, by the compasse of the tops, if your top be well spread. And vnder the droppings and shadow of your trees, be sure no herbs will like. Let this be said for the distance of Trees.

CHAP.

CHAP. IX.

Of the Placing of Trees.

THE placing of Trees in an Orchard is well worth the regard: For although it must be granted that any of our foresaid Trees (Chap. 2.) will like well in any part of your Orchard, being good and well drest earth: yet are not all Trees alike worthy of a good place. And therefore I wish that your Filberd, Plums, Damsons, Bulesse, and such like, be vtterly remoued from the plaine soile of your Orchard into your fence: for there is not such fertilitie and easefull growth, as within: and there also they are more subiect, and can better abide the blasts of Æolus. The Cheries and Plums being ripe in the hot time of Summer, and the rest standing longer, are not so soon shaken as your better fruit: neither if they suffer losse, is your losse so great. Besides that, your fences and ditches will deuoure some of your fruit growing in or neere your hedges. And seeing the continuance of all these (except Nuts) is small, the care of them ought to be the lesse. And make no doubt, but the fences of a large Orchard will containe a sufficient number of such kind of Fruit-trees in the whole compasse. It is not materiall, but at your pleasure, in the said fences, you may either intermingle your seuerall kinds of fruit-trees, or set euery kind by himselfe, which order doth very well become your better and greater fruit. Let therefore your Apples, Peares, and Quinches, possesse the soile of your Orchard, vnlesse you be especially affected to some of your other kinds: and of them let your greatest Trees of growth stand furthest from Sunne, and your Quinches at the South side or end, and your Apples in the middle, so shall none be any hindrance to his fellowes. The Warden-tree, and winter Peare will challenge the preheminence for stature. Of your Apple-trees you shall finde difference in growth. A good Pippin will grow large, and a Costard tree: stead them on the North side of your other Apples, thus being placed, the least will giue Sunne to the rest, and the greatest will shroud their fellowes. The fences and out-trees will guard all.

CHAP. X.

Of Grafting.

Of grauing or caruing.

Grafting what.

A Graffe.

NOW are we come to the most curious point of our faculty: curious in conceit, but indeed as plaine and easie as the rest, when it is plainly shewne, which we commonly call Graffing, or (after some) Grafting. I cannot Etymoligize, nor shew the originall of the word, except it come of grauing and carving. But the thing or matter is: The reforming of the Fruit of one Tree with the fruit of another, by an artificial transplacing or transposing of a twig, bud or leafe, (commonly called a Graft) taken from one tree of the same, or some other kind, and placed or put to, or into another tree in due time and manner.

Of

Of this there be diuers kinds, but three or foure now especially in vse: to wit, Grafting, incising, packing on, grafting in the scutchion, or inoculating: whereof the chiefe and most vsuall, is called grafting (by the generall name, *Cat ahexocen :*) for it is the most knowne, surest, readiest, and plainest way to haue store of good fruit. Kinds of grafting.

It is thus wrought: You must with a fine, thin, strong, and sharpe Saw, made and armed for that purpose, cut off a foot aboue the ground, or thereabouts, in a plaine without a knot, or as neere as you can without a knot (for some Stocks will be knottie,) your Stocke, set or plant, being surely staied with your foot and legge, or otherwise streight ouerthwart (for the Stocke may be crooked) and then plaine his wound smoothly with a sharp knife: that done, cleane him cleanly in the middle with a cleaner, and a knocke or mall, and with a wedge of wood, Iron or Bone, two handfull long at least, put into the middle of that clift, with the same knocke, make the wound gape a straw bredth wide, into which you must put your Graffes. Graft how.

The Graft is a top twig taken from some other Tree (for it is folly to put a graffe into his owne Stocke) beneath the vppermost (and sometime in need the second) knot, and with a sharpe knife fitted in the knot (and sometime out of the knot when neede is) with shoulders an ynch downeward, and so put into the stocke with some thrusting (but not straining) barke to barke inward. A Graft what.

Let your graffe haue three or foure eyes, for readinesse to put forth, and giue issue to the sap. It is not amisse to cut off the top of your graffe, and leaue it but fiue or six inches long, because commonly you shall see the tops of long graffes die. The reason is this. The sap in graffing receiues a rebuke, and cannot worke so strongly presently, and your graffes receiue not sap so readily, as the naturall branches. When your graffes are cleanly and closely put in, and your wedge puld out nimbly, for feare of putting your graffes out of frame, take well tempered morter, soundly wrought with chaffe or horsedung (for the dung of cattell will grow hard, and straine your graffes) the quantity of a Gooses egge, and Eyes.

diuide

diuide it iust, and therewithall couer your stocke, laying the one halfe on the one side, and the other halfe on the other side of your graffes (for thrusting against your graffes you moue them,) and let both your hands thrust at once, and alike, & let your clay be tender, to yeeld easily; and all, lest you moue your graffes. Some vse to couer the clift of the Stocke vnder the clay with a peece of barke or leafe, some with a sear=cloth of waxe and butter, which as they be not much needfull, so they hurt not, vnlesse that by being busie about them, you moue your graffes from their places. They vse also mosse tyed on aboue the clay with some brier, wicker, or other bands. These profit nothing. They all put the graffes in danger, with pulling and thrusting: for I hold this generall rule in graffing, and planting: if your stocke and graffes take, and thriue (for some will take and not thriue, being tainted by some meanes in the planting or grafting) they will (without doubt) recouer their wounds safely and shortly.

Generall rule.

Time of graffing.

The best time of graffing from the time of remouing your stocke is the next Spring, for that saues a second wound, and a second repulse of sap, if your stocke be of sufficient bignesse to take a graffe from as big as your thumbe, to as bigge as an arme of a man. You may graffe lesse (which I like) and bigger, which I like not so well. The best time of the yeere is in the last part of February, or in March, or beginning of Aprill, when the Sunne with his heat beginnes to make the sap stirre more rankly, about the change of Moone before you see any great apparancy of leafe or flowers, but onely knots and buds, and before they be proud, though it be sooner. Cheries, Peares, Apricocks, Quinces and Plummes would be gathered and grafted sooner.

Gathering Graffes.

The graffes may be gathered sooner in February, or any time within a moneth, or two before you graffe, or vpon the same day (which I commend.) If you get them any time before, for I haue knowne graffes gathered in December, and doe well, take heed of droughts. I haue my selfe taken a bur knot of a tree, and the same day when he was laid in the earth about mid February, gathered grafts and put in him, and one of those graffes bore the third yeere after, and the fourth plentifully. Graffes of old trees would be gathered sooner than of yong trees, for they sooner breake and bud. If you keepe graffes in the earth, moisture with the heat of the Sunne will make them sprout as fast, as if they were growing on the tree. And therefore seeing keeping is dangerous, the surest way (as I iudge) is to take them within a weeke of the time of your grafting.

Graffes of old trees.

The grafts would be taken not of the proudest twigs, for it may be your Stocke is not answerable in strength. And therefore (say I) the grafts brought from South to vs in the North, although they take and thriue (which is somewhat doubtfull, by reason of the difference of the Clime and carriage) yet shall they in time fashion themselues to our cold Northerne Soyle, in growth, taste, &c. Nor of the poorest, for want of strength may make them vnready to receiue sap (and who can tell but a poore graft is tainted) nor on the outside of your tree, for there should your tree spread but in the middest: for there you may be sure your Tree is no whit hindered in his growth or forme. He will still recouer inward, more than you would wish. If your clay clift in summer with drought, looke well in the Chinkes for Emmits and Earewigs, for they are cunning and close theeues, about grafts you shall finde them stirring in the morning or euening, and the rather in moist weather. I haue had many yong

Where taken.

Emmits.

yong buds of Graffes, euen in the flourishing, eaten with Ants. Let this suffice for graffing, which is in the faculty counted the chiefe secret, and because it is most vsuall, it is best knowne.

Graffes are not to bee disliked for growth, till they wither, pine, and die. Vsually before Midsummer they breake, if they liue. Some (but few) keeping proud and greene, will not put till the second yeere, so is it to be thought of Sets.

The first shew of putting is no sure signe of growth, it is but the sap the graffe brought with him from his tree.

So soone as you see the graft put for growth, take away the claie, for then doth neither the stocke nor the graffe need it (put a little fresh well=tempered claie in the hole of the stocke) for the claie is now tender, and rather keepes moisture than drought.

The other waies of changing the naturall fruit of Trees, are more curious than profitable, and therefore I minde not to bestow much labour or time about them, onely I shall make knowne what I haue proued, and what I doe thinke.

And first of incising, which is the cutting of the barke of the boale, a rine or branch of a tree at some bending or knee, shoulderwise with two gashes, onely with a sharpe knife to the wood: then take a wedge, the bignesse of your graffe sharpe ended, flat on the one side, agreeing with the tree, and round on the other side, and with that being thrust in, raise your barke, then put in your graffe, fashioned like your wedge iust: and lastly couer your wound, and fast it vp, and take heed of straining. This will grow but to small purpose, for it is weake hold, and lightly it will be vnder growth. Thus may you graft betwixt the barke and the tree of a great stocke that will not easily be clifted: But I haue tried a better way for great trees, viz. First, cut him off straight, and cleanse him with your knife, then cleaue him into foure quarters, equally with a strong cleauer: then take for euery Clift two or three small (but hard) wedges iust of the bignesse of your grafts, and with those Wedges driuen in with an hammer open the foure clifts so wide (but no wider) that they may take your foure graffes, with thrusting, not with straining: and lastly, couer and clay it closely, and this is a sure and good way of grafting: or thus, clift your stocke by his edges twice or thrice with your cleauer, and open him with your wedge in euery clift one by one, and put in your grafts, and then couer them. This may doe well. Inciſing. A great ſtocke.

Packing on is, when you cut aslope a twig of the same bignesse with your graft, either in or besides the knot, two inches long, and make your graft agree iumpe with the Cyon, and gash your graft and your Cyon in the middest of the wound, lengthway, a straw breadth deepe, and thrust the one into the other, wound to wound, sap to sap, barke to barke, then tye them close and clay them. This may doe well. The fairest graft I haue in my little Orchard, which I haue planted, is thus packt on, and the branch whereon I put him, is his plentiful root. Packing thus.

To be short in this point, cut your graft in any sort or fashion, two inches long, and ioyne him cleanly and close to any other sprig of any tree in the latter end of the time of grafting, when sap is somewhat rife, and in all probabilitie they will close and thriue: thus,

The ſprig. The graft. The twig. The graft.

Or any other fashion you thinke good.

Inorulating

Inoculating.

Inoculating is an eye or bud, taken barke and all from one tree, and placed in the roome of another eye or bud of another, cut both of one compasse, and there bound. This must be done in Summer, when the sap is proud.

Graffing in the Scutchion.

Much like unto this is that, they call grafting in the scutchion. They differ thus: That here you must take an eye with his leafe, or (in mine opinion) a bud with his leaues. (Note that an eie is for a Cyon, a bud is for flowers and fruit,) and place them on another tree, in a plaine (for so they teach;) the place or barke where you must set it must be thus cut with a sharpe knife, and the barke raised with a wedge, and then the eye or bud put in and so bound vp. I cannot denie but such may grow. And your bud if he take will flowre and beare fruit that yeere: as some grafts and sets also, being set for bloomes. If these two kindes thriue, they reforme but a spray, and an vnder-growth. Thus you may place Roses on Thornes, and Cheries on Apples, and such like. Many write much more of grafting, but to small purpose. Whom we leaue to themselues, and their followers; and ending this secret we come in the next Chapter to a point of knowledge most requisite in an Arborist, as well for all other woods as for an Orchard.

CHAP. XI.

Of the right dressing of Trees.

Necessitie of dressing trees.

If all these things aforesaid were indeed performed, as wee haue shewed them in words, you should haue a perfect Orchard in nature and substance, begun to your hand: And yet are all these things nothing, if you want that skill to dresse and keepe your trees. Such is the condition of all earthly things, whereby a man receiueth profit or pleasure, that they degenerate presently without good ordering. Man himselfe left to himselfe, growes from his heauenly and spirituall generation, and becommeth beastly, yea diuellish to his owne kind, unlesse he be regenerate. No maruell then, if Trees make their shoots, and put their spraies disorderly. And truly (if I were worthy to iudge) there is not a mischiefe that breedeth greater and more generall harme to all the Orchard (especially if they be of any continuance) that euer I saw (I will not except three) than the want of the skilful dressing of trees. It is a common and vnskilfull opinion, and saying, Let all grow, and they will beare more fruit: and if you lop away superfluous boughs, they say, what a pittie is this? How many apples would these haue borne? not considering there may arise hurt to your Orchard, as well (nay rather) by abundance, as by want of wood. A sound and thriuing plant in a good soyle, will euer yeeld too much wood, and disorderly, but neuer too little. So that a skilfull and painfull Arborist, need neuer want matter to effect a plentifull and well drest Orchard: for it is an easie matter to take away superfluous boughs (if your Gardner haue skill to know them) whereof your plants will yeeld abundance, and skill will leaue sufficient well ordered. All ages both by rules and experience doe consent to a pruining and lopping of trees: yet haue not any that I know described vnto vs (except

Generall Rule.

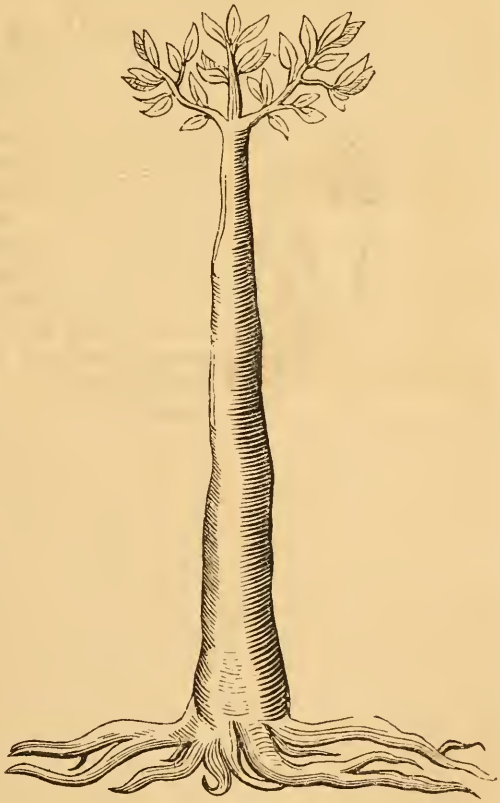
(except in darke and generall words) what or which are those superfluous boughs, which wee must take away, and that is the chicke and most needfull point to be knowne in lopping. And wee may well assure our selues, (as in all other Arts, so in this) there is a vantage and dexterity, by skill, and an habit by practise out of experience, in the performance hereof for the profit of mankind; yet doe I not know (let me speake it with the patience of our cunning Arborists) any thing within the compasse of humane affaires so necessary and so little regarded, not onely in Orchards, but also in all other timber trees, where or whatsoeuer.

Timber wood euill dreſt.

How many Forests and Woods, wherein you shall haue for one liuely thriuing tree, foure (nay sometimes twenty foure) euill thriuing, rotten and dying trees, euen while they liue? And in stead of trees thousands of bushes and shrubbes. What rottennesse? what hollownesse? what dead armes? withered tops? curtalled trunkes? what loads of mosses? drouping boughes? and dying branches shall you see euery where? And those that like in this sort are in a manner all vnprofitable boughes, cankered armes, crooked, little and short boales: what an infinite number of bushes, shrubs, and skrogs of hazels, thornes, and other profitable wood, which might be brought by dressing to become great and goodly Trees. Consider now the cause: The lesser wood hath beene spoiled with carelesse, vnskilfull, and vntimely stowing, and much also of the great wood. The greater Trees at the first rising haue filled and ouer-loaden themselues with a number of wastfull boughs and suckers, which haue not onely drawne the sappe from the boale, but also haue made it knottie, and themselues and the boale mossie for want of dressing, whereas if in the prime of growth they had beene taken away close, all but one top (according to this patterne) and cleane by the bulke, the strength of all the Sap should haue gone to the bulke, and so he would haue recouered and couered his knots, and haue put forth a faire, long and streight body (as you see) for timber profitable, huge great of bulke, and of infinite last.

The cauſe of hurts in wood.

Dreſſe timber Trees how.



Imagine the root to be ſpred farre wider.

If all timber Trees were such (will some say) how should we haue crooked wood for wheeles, coorbs, &c.

Answ. Dresse all you can, and there will be enough crooked for those vses.

More than this, in most places, they grow so thicke, that neither themselues, nor earth, nor any thing vnder or neere them can thriue, nor sunne, nor raine, nor aire can doe them, nor any thing neere or vnder them any profit or comfort.

I see a number of Mags, where out of one root you shall see three or foure, (nay more) such as mens vnskilfull greedinesse, who desiring many haue none good) pritty Oakes or Ashes, straight and tall, because the root at the first shoot giues Sap amaine: but if one onely of them might be suffred to grow, and that well and cleanly pruned, all to his very top, what a Tree should wee haue in time? And wee see by those roots continually and plentifully springing, notwithstanding so deadly wounded, what a commodity should arise to the owner, and the common-wealth, if wood were cherished, and orderly dressed.

Profit of trees dressed.

The waste boughs closely and skilfully taken away, would giue vs store of fences and fewell, and the bulke of the tree in time would grow of huge length and bignesse. But here (me thinks) I heare an vnskilfull Arborist say, that trees haue their seuerall formes, euen by nature: The Peare, the Holly, the Aspe, &c. grow long in bulke with few and little armes. The Oke by nature broad, and such like. All this I grant: but grant me also, that there is a profitable end, and vse of euery tree, from which if it decline (tho by nature) yet man by art may (nay must) correct it. Now other end of Trees I neuer could learne, than good timber, fruit much and good, and pleasure. Vses physicall hinder nothing a good forme.

The end of trees.

Trees will take any forme.

Neither let any man euer so much as thinke, that it is vnprobable, much lesse vnpossible, to reforme any tree of what kinde soeuer. For (beleue me) I haue tried it, I can bring any tree (beginning by time) to any forme. The Peare and Holly may be made to spread, and the Oke to close.

But why doe I wander out of the compasse of mine Orchard into the Forrests and woods? Neither yet am I from my purpose, if boales of timber trees stand in need of all the sap, to make them great and streight (for strong growth and dressing make strong trees) then it must needs be profitable for fruit (a thing more immediatly seruing a mans need) to haue all the sap his root can yeeld: for as timber sound, great and long, is the good of timber trees, and therefore they beare no fruit of worth: so fruit, good, sound, pleasant, great and much, is the end of fruitfull trees. That Gardner therefore shall performe his duty skilfully and faithfully, which shall so dresse his Trees, that they may beare such and such store of fruit, which he shall neuer doe (I dare vndertake) vnlesse he keepe this order in dressing his Trees.

The end of trees.

How to dresse a fruit tree.

A fruit Tree so standing, that there need none other end of dressing but fruit (not ornaments for walkes, nor delight to such as would please their eye onely, and yet the best forme cannot but both adorne & delight) must be parted from within two foot (or thereabouts) of the earth, so high to giue liberty to dresse his root, and no higher, for drinking vp the sap that should feed his fruit, for the boale will be first, and best serued and fed, because he is next the root, and of greatest waxe and substance, and that

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that makes him longest of life, into two, three, or foure armes, as your stocke or graffes yeeld twigs, and euery arme into two or more branches, and euery branch into his seuerall Cyons, still spreading by equal degrees, so that his lowest spray be hardly without the reach of a mans hand, and his highest be not past two yards higher, rarely (especially in the middest) that no one twig touch his fellow. Let him spread as far as he list without any master-bough, or top equally. And when any bough doth grow sadder and fall lower, than his fellowes (as they will with weight of fruit) ease him the next spring of his superfluous twigs, and he will rise: when any bough or spray shall amount aboue the rest, either snub his top with a nip betwixt your finger and your thumb, or with a sharpe knife, and take him cleane away, and so you may vse any Cyon you would reforme; and as your tree shall grow in stature and strength, so let him rise with his tops, but slowly, and early, especially in the middest, and equally, and in breadth also, and follow him vpward with lopping his vnder-growth and water-boughs, keeping the same distance of two yards, but not aboue three in any wise, betwixt the lowest and highest twigs.

1 Thus shall you haue well liking, cleane skind, healthfull, great, and long-lasting trees. Benefits of good dressing.

2 Thus shall your Tree grow low, and safe from winds, for his top will be great, broad and weighty.

3 Thus growing broad, shall your trees beare much fruit (I dare say) one as much as sixe of your common trees, and good without shadowing, dropping, and fretting: for his boughs, branches, and twigs shall be many, and those are they (not the boale) which beare the fruit.

4 Thus shall your boale being little (not small but low) by reason of his shortnesse, take little, and yeeld much sap to the fruit.

5 Thus your Trees by reason of strength in time of setting shall put forth more blossomes, and more fruit, being free from taints; for strength is a great helpe to bring forth much and safely, whereas weaknesse failes in setting though the season be calme.

6 Thus shall your tree be easie to dresse, and without danger, either to the tree or the dresser.

7 Thus may you safely and easily gather your fruit without falling, bruising or breaking of Cyons.

Some vse to bare Trees roots in Winter, to stay the setting till hotter seasons, which I discommend, because

1 They hurt the roots.

2 It staies it nothing at all.

3 Though it did, being but small, with vs in the North, they haue their part of our April and Maies frosts.

4 Hindrance cannot profit weake trees in the setting.

5 They waste much labour.

This is the best forme of a fruit-tree, which I haue here only shadowed out for the better capacity of them that are led more with the eye, than the mind, craueing pardon for the deformity, because I am nothing skilfull either in painting or caruing.

Imagine that the paper makes but one side of the Tree to appeare, the whole round compasse will giue leaue for many more armes, boughs, branches and Cyons.

The

The perfect forme of a Fruit tree.

If any thinke a tree cannot well be brought to this forme: *Experto crede Roberto.* I can shew diuers of them under twenty yeeres of age.

Time best for proining.

The fittest time of the Moone for proyning is as of grafting, when the sap is ready to stirre (not proudly stirring) and so to couer the wound, and of the yeere, a moneth before (or at least when) you graffe. Dresse Peares, Apricoks, Peaches, Cheries, and Bullys sooner. And old trees before yong Plants, you may dresse at any time betwixt Leafe and Leafe. And note, that where you take any thing away, the sap the next summer will be putting: be sure therefore when he puts a bud in any place where you would not haue him, rub it off with your finger.

Dresse betime.

And heere you must remember the common homely Prouerbe: Soone crookes the tree that good Camrell must bee. Beginne betime with trees, and doe what you list: but if you let them grow great and stubborne, you must doe as the trees list. They will not bend but breake, nor be wound without danger. A small branch will become a bough, and a bough an arme in bignesse. Then if you cut him, his wound will fester, and hardly, without good skill, recouer: therefore, obsta principijs. Of such wounds, and lesser, or any bough cut off a handfull or more from the body, comes hollownesse, and vntimely death. And therfore when you cut, strike close, and cleane, and vpwards, and leaue no bunch.

Faults of euil dreſt trees, & the remedie.

The forme altered.

This forme in some cases sometimes may be altered: If your tree, or trees, stand neere your Walkes, if it please your fancie more, let him not breake, till his boale be aboue your head: so may you walke vnder your trees at your pleasure. Or if you set your fruit trees for your shades in your Groues, then I respect not the forme of the tree, but the comelinesse of the walke.

Dressing of old trees.

All this hitherto spoken of dressing, must be vnderstood of yong Plants, to be formed: it is meet somewhat be said for the instruction of them that haue old trees already formed, or rather deformed: for malum non vitatur nisi cognitum. The faults therfore of a disordered tree, I finde

to

to be fiue: 1. An vnprofitable boale: 2. Waterboughs: 3. Fretters: 4. Suckers: and 5. One principall top. Faults are fiue, & their remedies.

A long boale asketh much seeding, and the more he hath the more he desires, and gets (as a drunken man drinke, or a couetous man wealth) and the lesse remains for the fruit, he puts his boughs into the aire, and makes them, the fruit, and it selfe more dangered with winds: for this I know no remedy, after that the tree is come to growth, once euill, neuer good. 1. Long boale. No remedie.

Water-boughs, or vndergrowth, are such boughs as grow low vnder others and are by them ouergrowne, ouershadowed, dropped on, and pinde for want of plenty of sap, and by that meanes in time die: For the sap presseth vpward; and it is like water in her course, where it findeth most issue, thither it floweth, leaving the other lesser sluces dry: euen as wealth to wealth, and much to more. These so long as they beare, they beare lesse, worse, and fewer fruit, and waterish. 2. Water boughs.

The remedy is easie, if they be not growne greater than your arme. Lop them close & cleane; & couer the middle of the wound, the next Summer when he is dry, with a salue made of tallow, tar, & a very little pitch, good for the couering of any such wound of a great tree: vnlesse it be barke-pild, and then a scar-cloth of fresh Butter, Hony, and Waxe, presently (while the wound is greene) applyed, is a soueraigne remedy in summer especially. Some bind such wounds with a thumbe rope of Hay, moist, and rub it with dung. Remedy. Barke-pild, and the remedie.

Fretters are, when as by the negligence of the Gardner, two or moe parts of the tree, or of diuers trees, as armes, boughs, branches, or twigs, grow so neere and close together, that one of them by rubbing, doth wound another. This fault of all other shewes the want of skill, or care (at least) in the Arborist: for here the hurt is apparant, and the remedy easie, seene to betime: galls and wounds incurable, but by taking away those members: for let them grow, and they will be worse and worse, and so kill themselues with ciuill strife for roomth, and danger the whole tree. Auoid them betime therefore, as a common-wealth doth bosome enemies. 3. Fretters. Touching. Remedy.

A Sucker is a long, proud, and disorderly Cyon, growing streight vp (for pride of sap makes proud, long & streight growth) out of any lower parts of the tree, receiuing a great part of the sap, and bearing no fruit, till it haue tyrannized ouer the whole tree: These are like idle and great Drones amongst Bees; and proud and idle members in a common-wealth. 4. Suckers.

The remedy of this is, as of water-boughs, vnlesse he be growne greater, then all the rest of the boughs, and then your Gardner (at your discretion) may leaue him for his boale, and take away all, or the most of the rest. If he be little, slip him, and set him, perhaps he will take: my fairest Apple-tree was such a Slip. Remedy.

One or two principall top boughs are as euill, in a manner, as Suckers, they rise of the same cause, and receiue the same remedy: yet these are more tolerable, because these beare fruit, yea the best: but Suckers of long doe not beare. 5. One principall top or bough, and remedy.

I know not how your tree should be faulty, if you reforme all your vices timely, and orderly. As these rules serue for dressing yong trees and sets in the first planting: so may they well serue to helpe old trees, though not exactly to recouer them.

The Instruments fittest for all these purposes, are most commonly,

For

Instruments for dressing.

For the great Trees an handsome, long, light Ladder of Firpoles, a little, nimble, and strong armed Saw, and sharpe. For lesse Trees, a little and sharpe Hatchet, a broad mouthed Chesell, strong and sharpe, with an handbeetle, your strong and sharpe Cleeuer, with a knock, and (which is a most necessary Instrument amongst little Trees) a great hafted and sharpe knife or Whittle. And as needful is a Stoole on the top of a Ladder of eight or moe rounds, with two backe feet, whereon you may safely and easefully stand to graffe, to dresse, and to gather fruit, thus formed: The feet may be fast wedged in: but the Ladder must hang loose, with two bands of iron. And thus much of dressing trees for fruit, formally to profit.

CHAP. XII.

Of Foyling.

Necessity of foiling.

There is one thing yet very necessary for to make your Orchard both better, and more lasting: Yea, so necessary, that without it your Orchard cannot last, nor prosper long, which is neglected generally both in precepts and in practise, viz. manuring with Foyle: whereby it hapneth that when trees (amongst other euils) through want of fatnesse to feede them, become mossie, and in their growth are euill (or not) thriuing, it is either attributed to some wrong cause, as age, (when indeed they are but yong) or euill standing (stand they neuer so well) or such like, or else the cause is altogether vnknowne, and so not amended.

Trees great suckers.

Can there be deuised any way by nature, or art, sooner or soundlier to seeke out, and take away the heart and strength of earth, than by great trees? Such great bodies cannot be sustained without great store of sap. What liuing body haue you greater than of trees? The great Sea-monsters (whereof one came a land at Teesmouth in Yorkeshire, hard by vs, 18. yards in length, and neere as much in compasse) seeme hideous, huge, strange, and monstrous, because they be indeed great: but especially, because they are seldome seene: But a tree liking, come to his growth and age, twice that length, and of a bulke neuer so great, besides his other parts, is not admired, because he is so commonly seene. And I doubt not, but if he were well regarded from his kirnell, by succeeding ages, to his full strength, the most of them would double their measure. About fifty yeeres agoe I heard by credible and constant report, That in Brooham Parke in West-more-land, neere vnto Penrith, there lay a blowne Oake, whose Trunke was so bigge, that two Horsemen being the one on the one side, and the other on the other side, they could not one see another: to which if you adde his armes, boughs, and roots, and consider of his bignesse, what would he haue beene, if preserued to the vantage? Also I read in the History of the West-Indians, out of Peter Martyr, That sixteene men taking hands one with another, were not able to fathome one of those trees about. Now Nature hauing giuen to such a faculty by large and infinite roots, tawes and tangles, to draw immediatly his sustenance from our common mother the Earth (which is like in

Great bodies.

this

this point to all other mothers that beare) hath also ordained that the Tree ouer=laden with fruit, and wanting sap to feed all she hath brought forth, will waine all she cannot feed, like a woman bringing forth moe children at once than she hath teats. See you not how Trees especially, by kind being great, standing so thicke and close, that they cannot get plenty of sap, pine away all the grasse, weeds, lesser shrubs, and trees, yea and themselues also for want of bigor of sap? So that trees growing large, sucking the soyle whereon they stand, continually, and amaine, and the foyzon of the earth that feeds them decaying (for what is there that wastes continually, that shall not haue end?) must either haue supply of sucken, or else leaue thriuing and growing. Some grounds will beare Corne while they be new, and no longer, because thrir crust is shallow, and not very good, and lying high they scind and wash, and become barren. The ordinary Corne soiles continue not fertill, without following and foyling, and the best requires supply, euen for the little body of Corne. How then can we thinke that any ground (how good soeuer) can sustaine bodies of such greatnesse, and such great feeding, without great plenty of Sap arising from good earth? This is one of the chiefe causes, why so many of our Orchards in England are so euill thriuing when they come to growth, and our fruit so bad. Men are loth to bestow much ground, and desire much fruit, and will neither set their trees in sufficient compasse, nor yet feed them with manure. Therefore of necessity Orchards must be foiled.

Time fit for foyling.

The fittest time is, when your Trees are growne great, and haue neere hand spread your earth, wanting new earth to sustaine them, which if they do, they will seeke abroad for better earth, and shun that which is barren, (if they find better) as cattell euill pasturing. For nature hath taught euery creature to desire and seeke his owne good, and to auoid hurt. The best time of the yeere is at the Fall, that the Frost may bite and make it tender, and the Raine wash it into the roots. The Summer time is perillous if ye dig, because the sap stirs amaine. The best kinde of Foile is such as is fat, hot, and tender. Your earth must be but lightly opened, that the dung may goe in, and wash away; and but shallow, lest you hurt the roots: & in the spring, closely and equally made plaine againe for feare of Suckers. I could wish, that after my Trees haue fully possessed the soile of mine Orchard, that euery seuen yeeres at least, the soile were bespread with dung halfe a foot thicke at least. Puddle water out of the dunghill powred on plentifully, will not onely moisten but fatten especially in June and July. If it be thicke and fat and applied euery yeere, your Orchard shall need none other foiling. Your ground may lye so low at the Riuer side, that the floud standing some daies and nights thereon, shall saue you all this labour of foiling.

Kind of foyle.

CHAP. XIII.

Of Annoyances.

Chiefe helpe to make euery thing good, is to auoid the euils thereof: You shall neuer attaine to that good of your Orchard you looke for, vnlesse you haue a Gardner, that can discerne the diseases of your trees, and other annoiances of your Orchard, and find out the causes thereof, and know and apply fit remedies for the same. For be your

your ground, site, plants, and trees as you would wish, if they be wasted with hurtfull things, what haue you gained but your labour for your trauell? It is with an Orchard and euery tree, as with mans body. The best part of physicke for preseruation of health, is to foresee and cure diseases.

Two kinds of euils in an Orchard.

All the diseases of an Orchard are of two sorts, either internall or externall. I call those inward hurts which breed on and in particular trees.

1 Gals	5 Barke bound.
2 Canker.	6 Barke pild.
3 Mosse.	7 Worme.
4 Weaknes in setting.	8 Deadly wounds.

Gals, Canker, Mosse, weaknesse, though they be diuers diseases: yet (howsoeuer Authors thinke otherwise) they rise all out of the same cause.

Gals.

Gals we haue described with their cause and remedy, in the 11. Chapter vnder the name of fretters.

Canker.

Canker is the consumption of any part of the tree, barke and wood, which also in the same place is deciphered vnder the title of water-boughs.

Mosse.

Mosse is sensibly seene and knowne of all, the cause is pointed out in the same Chap. in the discourse of Timber-wood, and partly also the remedy: But for Mosse adde this, That at any time in summer (the Spring is best) when the cause is remoued, with an Haircloth, immediatly after a showre of raine, rub off your Mosse, or with a peece of wood (if the Mosse abound) formed like a great knife.

Weaknesse in setting.

Weaknesse in the setting of your fruit shall you find there also in the same Chapter, and his remedy. All these flow from the want of roomth in good soile, wrong planting, Chap. 7. and euill or no dressing.

Barke-bound.

Barke-bound (as I thinke) riseth of the same cause, and the best, and present remedy (the causes being taken away) is with your sharpe knife in the Spring, length-way to lanch his barke throughout, on three or foure sides of his boale.

Worme.

The disease called the Worme is thus discernd: The barke wil be hoald in diuers places like gal, the wood wil die & dry, and you shall see easily the barke swell. It is verily to be thought, that therin is bred some worme. I haue not yet thorowly sought it out, because I was neuer troubled therwithal: but only haue seene such trees in diuers places. I thinke it a worme rather, because I see this disease in trees, bringing fruit of sweet taste, & the swelling shewes as much. The remedy (as I coniecture) is so soone as you perceiue the wound, the next spring cut it out bark and all, & apply Cowes pisse & vinegar presently, and so twise or thrice a weeke for a Moneths space: For I well perceiue, if you suffer it any time, it eats the tree or bough round, and so kils.

Remedy.

Since I first wrote this Treatise, I haue changed my mind concerning the disease called the worme, because I read in the History of the West-Indians, that their trees are not troubled with the disease called the worme or canker, which ariseth of a raw and euill concocted humor or sap, witnesse Pliny, by reason their Country is more hot then ours, whereof I thinke the best remedy is (not disallowing the former, considering that the worme may breed by such an humor) warme standing, sound lopping, and good dressing.

Bark-pilde.

Bark-pild you shall find with his remedy in the 11. Chapter.

Deadly

Deadly wounds are when a mans Arborist wanting skill, cuts off armes, boughs or branches an inch, or (as I see sometimes) an handfull, or halfe a foot or more from the body. These so cut cannot couer in any time with sap, and therefore they die, and dying they perish the heart, and so the tree becomes hollow, and with such a deadly wound cannot liue long. Wounds.

The remedy is, if you find him before he be perished, cut him close, as in the 11. Chapter: if he be hoald, cut him close, fill his wound, tho neuer so deepe, with morter well tempered, and so close at the top his wound with a Seare=cloth doubled and nailed on, that no aire nor raine approach his wound. If he be not very old, and detaining, he will recouer, and the hole being closed, his wound within shall not hurt him for many yeeres. Remedy.

Hurts on your trees are chiefely Ants, Earewigs, and Caterpillars. Of Ants and Earewigs is said Chap. 10. Let there be no swarme of Pismires neere your Tree root, no not in your Orchard, turne them ouer in a frost, and poure in water, and you kill them. Hurts on trees. Ants, Earwigs.

For Caterpillars, the vigilant Fruterer shall soone espy their lodging by their Web, or the decay of leaues eaten round about them. And being seene, they are easily destroyed with your hand, or rather (if your tree may spare it) take sprig and all (for the red peckled butter=flye doth euer put them, being her sparm, among the tender spraies for better feeding, especially in drought) and tread them vnder your feet. I like nothing of smoke among my trees. Vnnaturall heats are nothing good for natural trees. This for diseases of particular trees. Caterpillars, and such like wormes.

Externall hurts are either things naturall or artificiall. Naturall things, externally hurting Orchards. External euils.

1 Beasts.	1 Deere.	2 Birds.	1 Bullfinch.
	2 Goates.		2 Thrush.
	3 Sheepe.		3 Blackbird.
	4 Mare.		4 Crow.
	5 Cony.		5 Pye.
	6 Cattell.		
	7 Horse.		&c.

The other things are,

1 Winds.
2 Cold.
3 Trees.
4 Weeds.
5 Wormes.
6 Mowles.
7 Filth.
8 Poysonfull smoke.

Externall wilfull euils are these:

1 Walls.
2 Trenches.
3 Other works noysome done in or neere your Orchard.
4 Euill Neighbours.
5 A carelesse Master.
6 An vndiscreet, negligent, or no Keeper.

See you not here an whole Army of mischiefes banded in troupes against the most fruitfull trees the earth beares? assailing your good labours. Good things haue most enemies.

A skilfull

Remedy. A skilfull Fructerer must put to his helping hand, and disband and put them to flight.

Deere, &c. For the first ranke of beasts, besides your out=strong fence, you must haue a faire and swift Greyhound, a Stone=bow, Gun and if neede require, an Apple with an hooke for a Deere, and an Ware=pipe for an Ware.

Birds. Your Cheries and other Berries when they be ripe, will draw all the Black=birds, Thrushes and Maw=pies to your Orchard. The Bul=finch is a deuourer of your Fruit in the Bud, I haue had whole trees shald out with them in Winter=time.

Remedy. The best remedy here is a Stone=bow, a Piece, especially if you haue a Musket or Spar=hawke in Winter to make the Black=bird stoop into a bush or hedge.

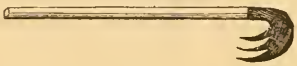
Other trees. The Gardner must cleanse his soile of all other Trees: but fruit trees aforesaid Chapter 2. for which it is ordained, and I would especially name Oakes, Elmes, Ashes, and such other great wood, but that I doubt it should be iaken as an admission of lesser trees: for I admit of nothing to grow in mine Orchard but Fruit and Flowers. If Sap can hardly be good to feede our Fruit=trees, why should wee allow of any other, especially those, that will become their Masters, and wrong them in their liuelihood?

And although we admit without the fence, of Walnuts in most plaine places, Trees middle=most, and Ashes or Okes, or Elmes vtmost, set in comely rowes equally distant with faire Allies twixt row and row to auoid

Winds. the boisterous blasts of winds, and within them also others for Bees: yet we admit none of this into your Orchard=plat: other remedy then this

Frosts. haue we none against the nipping frosts.

Weeds. Weeds in a fertile soile (because the generall curse is so) till your Trees grow great, will be noysome, and deforme your allies, walkes, beds, and squares, your vnder Gardners must labour to keepe all cleanly and handsome from them, and all other filth with a Spade, weeding=knives, rake with iron teeth: a skrapple of iron thus formed,



For Nettles and ground=Iuy after a showre.

Remedy. When weeds, straw, stickes, and all other scrapings are gathered together, burne them not, but bury them vnder your crust in any place of your Orchard, and they will dye and fatten your ground.

Wormes. Wormes and Moales open the earth, and let in aire to the roots of

Moles. your Trees, and deforme your squares & walkes, & feeding in the earth, being in number infinite, draw on barrennes.

Remedy. Worms may easily be destroyed. Any summer euening when it is darke, after a showre with a Candle, you may fill bushels, but you must tread nimbly. And where you cannot come to catch them so; sift the earth with coale ashes an inch or two thicknes, and that is a plague to them; so is sharpe grauell.

Moles will anger you, if your Gardner or some skilfull Mole=catcher ease you not, especially hauing made their fortresses among the roots of your trees: you must watch her well with a Mole=speare, at morne, noone, and night, when you see her vtmost hill, cast a Trench betwixt her and her home (for she hath a principall mansion to dwell and breed

in

in about April, which you may discerne by a principall hill, wherein you may catch her, if you trench it round and sure, and watch well) or wheresoeuer you can discerne a single passage (for such she hath) there trench, and watch, and haue her.

Wilfull anoyances must be preuented & auoided by the loue of the Master and Fruterer, which they beare to their Orchard. Wilfull annoyances.

Justice and liberality will put away euill neighbours or euill neighbourhood. And then (if God blesse and giue successe to your labours) I see not what hurt your Orchard can sustaine. Remedy.

CHAP. XIIII.

Of the Age of Trees.

It is to be considered: All this Treatise of trees tends to this end, that men may loue & plant Orchards, whereunto there cannot be a better inducement then that they know (or at least be perswaded) that all that benefit they shall reape thereby, whether of pleasure or profit, shall not be for a day or a moneth, or one, or many (but many hundreth) yeeres. Of good things the greatest, and most durable is allwaies the best. If therefore out of reason grounded vpon experience, it be made (I thinke) manifest, but I am sure probable, that a Fruit-tree in such a soile and site, as is described, so planted and trimmed & kept, as is afore appointed and duly soiled, shall dure 1000. yeeres, why should we not take paines, and be at two or three yeeres charges (for vnder seuen yeeres will an Orchard be perfected for the first planting, and in that time be brought to fruit) to reape such a commodity, and so long lasting? The age of trees.

Let no man thinke this to be strange, but peruse and consider the reason. I haue Apple-trees standing in my little Orchard, which I haue knowne these forty yeeres, whose age before my time I cannot learne, it is beyond memory, tho I haue enquired of diuers aged men of 80. yeeres and vpwards: these trees although come into my possession very euill ordered, mishapen, and one of them wounded to his heart, and that deadly (for I know it will be his death) with a wound, wherein I might haue put my foot in the heart of his bulke (now it is lesse) notwithstanding, with that small regard they haue had since, they so like, that I assure my selfe they are not come to their growth by more than two parts of three, which I discerne not onely by their own growth, but also by comparing them with the bulke of other trees. And I find them short (at least) by so many parts in bignesse, although I know those other fruit trees to haue been much hindred in their stature by euill guiding. Wherehence I gather thus. Gathered by reason out of experience.

If my trees be a hundred yeeres old, and yet want two hundred of their growth before they leaue increasing, which make three hundred, then we must needs resolue, that this three hundred yeeres are but the third part of a Trees life, because (as all things liuing besides) so Trees must haue allowed them for their encrease one third, another third for their stand, and a third part of time also for their decay. All which time of a Tree amounts to nine hundred yeeres, three hundred for increase, three hundred for his stand, whereof we haue the tearme stature, and three hundred Parts of a Trees age.

for

for his decay, and yet I thinke (for we must coniecture by comparing, because no one man liueth to see the full age of Trees) I am within the compasse of his age, supposing alwaies the foresaid meanes of preseruing his life. Consider the age of other liuing creatures. The Horse and moiled Oxe wrought to an vntimely death, yet double the time of their increase. A Dog likewise increaseth three, stands three at least, and in as many (or rather moe) decayes. Euery liuing thing bestowes the least part of his age in his growth, and so must it needs be with Trees. A man comes not to his full growth and strength (by common estimation) before thirty yeeres, and some slender and cleane bodies not till forty, so long also stands his strength, and so long also must hee haue allowed by course of nature to decay. Euer supposing that he be well kept with necessaries, and from and without straines, bruises, and all other domineering diseases. I will not say vpon true report, that Physicke holds it possible, that a cleane body be kept by these three Doctors, Doctor Dyet, Doctor Quiet, and Doctor Merriman, may liue neere a hundred yeeres. Neither will I here vrge the long yeeres of Methushalah, and those men of that time, because you will say, Mans dayes are shortned since the flood. But what hath shortned them? God for mans sinnes: but by meanes, as want of knowledge, euill gouernment, ryot, gluttony, drunkennes, and (to be short) the encrease of the curse, our sinnes increasing in an iron and wicked age.

Mans age.

Now if a man, whose body is nothing (in a manner) but tender rottennesse, whose course of life cannot by any meanes, by counsell, restraint of lawes, or punishment, nor hope of praise, profit, or eternall glory, be kept within any bounds, who is degenerate cleane from his naturall feeding, to effeminate niceneesse, and cloying his body with excesse of meat, drinke, sleepe, &c. and to whom nothing is so pleasant and so much desired as the causes of his owne death, as idlenesse, lust, &c. may liue to that age: I see not but a tree of a solide substance, not damnified by heate or cold, capable of, and subiect to any kinde of ordering or dressing, that a man shall apply vnto him, feeding naturally, as from the beginning disburdened of all superfluities, eased of, and of his owne accord auoiding the causes that may annoy him, should double the life of a man, more than twice told; and yet naturall philosophy, and the vniuersall consent of all Histories tell vs, that many other liuing creatures farre exceed man in the length of yeeres: As the Hart and the Rauen. Thus reporteth that famous Roterodam out of Hesiodus, and many other Historiographers. The testimony of Cicero in his booke De Senectute, is weighty to this purpose: that we must in posteras ætates ferete arbores, which can haue none other sence: but that our fruit trees, whereof he speakes, can endure for many ages.

What else are trees in comparison with the earth, but as haires to the body of man? And it is certaine, without poisoning, euill and distemperate dyet, and vsage, or other such forcible cause, the haires dure with the body. That they be called excrements, it is by reason of their superfluous growth: (for cut them as often as you list, and they will still come to their naturall length,) not in respect of their substance, and nature. Haires endure long, and are an ornament and vse also to the body, as trees to the earth.

So that I resolue vpon good reason, that fruit-trees well ordered, may liue and like a thousand yeers, and beare fruit, and the longer, the more,

the

the greater, and the better, because his vigour is proud and stronger, when his yeeres are many: You shall see old trees put their buds and blossomes both sooner and more plentifully than yong trees by much. And I sensibly perceiue my yong trees to inlarge their fruit, as they grow greater, both for number, and greatnesse. Yong Heifers bring not forth Calues so faire, neither are they so plentifull to milke, as when they become old Kine. No good Housewife will breed of a yong but an old bird=mother: It is so in all things naturally, therefore in trees.

And if fruit=trees last to this age, how many ages is it to be supposed, strong and huge timber trees will last? whose huge bodies require the yeeres of diuers Methushalahs, before they end their daies, whose Sap is strong & bitter, whose Bark is hard and thicke, and their substance solid & stiffe: all which are defences of health and long life. Their strength withstands all forcible winds, their sap of that quality is not subiect to wormes and tainting. Their barke receiues seldome or neuer by casualty any wound, and not onely so, but he is free from remouals, which are the death of millions of trees, whereas the fruit tree in comparison is little, and often blowne downe, his sap sweet, easily, and soone tainted, his barke tender, and soone wounded, and himselfe bled by man, as man vseth himselfe, that is, either vnskilfully, or carelesly. The age of timber trees.

It is good for some purposes to regard the age of your fruit trees, which you may easily know, till they come to accomplish twenty yeeres, by his knots: reckon from his roots vp an arme, and so to his top=twig, & euery yeeres growth is distinguished from other by a knot, except lopping or remouing doe hinder. Age of trees discerned.

CHAP. XV.

Of gathering and keeping Fruit.

Although it be an easie matter, when God shall send it, to gather and keepe fruit, yet are they certaine things worthy your regard. You must gather your fruit when it is ripe, and not before, else will it wither and be tough and sowre. All fruit generally are ripe, when they begin to fall. For Trees doe as all other bearers doe, when their yong ones are ripe, they will waine them. The Doue her Pigeons, the Cony her Rabbets, and women their children. Some fruit tree sometimes getting a taint in the setting with a frost or euill winde, will cast his fruit vntimely, but not before he leaue giuing them sap, or they leaue growing. Except from this foresaid rule, Cherries, Damsons, and Bullies. The Cherry is ripe when he is sweld wholly red, and sweet: Damsons and Bullies not before the first frost. Generall Rule. Cherries, &c.

Apples are knowne to be ripe, partly by their colour, growing towards a yellow, except the Leather=coat and some Peares and Greenings. Apples.

Timely Summer fruit will be ready, some at Midsummer, most at Lammas for present vse; but generally no keeping fruit before Michaeltide. Hard Winter fruit and Wardens longer. When.

Gather at the full of the Moone for keeping, gather dry, for feare of rotting.

Gather the stalkes withall: for a little wound in fruit, is deadly; but not Dry stalkes.

not the stumpe, that must beare the next fruit, nor leaues, for moisture putrifies.

Seuerally. Gather euery kind seuerally by it selfe, for all will not keepe alike, and it is hard to discerne them, when they are mingled.

Ouerladen trees. If your trees be ouer-laden, (as they will be, being ordered, as is before taught you) I like better of pulling some off (tho they be not ripe) neere the top end of the bough, then of propping by much, the rest shall be better fed. Propping puts the bough in danger, and frets it at least.

Instruments. Instruments: A long Ladder of light Firre: A stoole-ladder as in the 11. Chap. A gathering Apron like a poake before you, made of purpose, or a Wallet hung on a bough, or a basket with a fine bottome, or skin bottome, with Lathes or splinters vnder, hung in a rope to pull vp and

Bruises. downe: bruise none, euery bruise is to fruit death: if you doe, vse them presently. An hooke to pull boughs to you is necessary, breake no boughs.

Keeping. For keeping, lay them in a dry Loft, the longest keeping Apples first and furthest on dry straw, on heapes ten or foureteene dayes, thick, that they may sweat. Then dry them with a soft and cleane cloath, and lay them thin abroad. Long keeping fruit would be turned once in a moneth softly: but not in nor immediatly after frost. In a loft couer well with straw, but rather with chaffe or bran: For frost doth cause tender rottennes.

CHAP. XVI.

Of Profits.

NOw pause with your selfe, and view the end of all your labours in an Orchard: vnspeakable pleasure, and infinite commodity. The pleasure of an Orchard I refer to the last Chapter for the conclusion: and in this Chapter, a word or two of the profit, which thorowly to declare is past my skill: and I count it as if a man should attempt to adde light to the Sunne with a Candle, or number the Stars. No man that hath but a meane Orchard or iudgment but knowes, that the commodity of an Orchard is great: Neither would I speake of this, being a thing so manifest to all; but that I see, that through the carelesse lazinesse of men, it is a thing generally neglected. But let them know, that they lose hereby the chiefest good which belongs to housekeeping.

Compare the commodity that commeth of halfe an acre of ground, set with fruit trees and hearbs, so as is prescribed, and a whole Acre (say it be two) with Corne, or the best commodity you can wish, and the Orchard shall exceed by diuers degrees.

Cydar and Perry. In France and some other Countries, and in England, they make great vse of Cydar and Perry thus made: Dresse euery Apple, the stalke, vpper end, and all galls away: stampe them, and straine them, and within 24. houres tunne them vp into cleane, sweet, and sound vessels, for feare of euill ayre, which they will readily take: and if you hang a poake full of Cloues, Mace, Nutmegs, Cinamon, Ginger, and pils of Lemmons in the midst of the vessell, it will make it as wholesome and pleasant as wine. The like vsage doth Perry require. These drinks are very wholesome, they coole, purge, and preuent hot Agues. But I leaue this skill to Physicians.

Fruit. The benefit of your Fruit, Roots and Hearbs, though it were but to eat and sell, is much.

Waters

Waters distilled of Roses, Woodbind, Angelica, are both profitable and wondrous pleasant, and comfortable. Waters.

Saffron and Lycoras will yeeld you much Conserues and Preserues, are ornaments to your Feasts, health in your sicknesse, and a good helpe to your friend, and to your purse. Conserues.

He that will not be moued with such vnspeakable profits, is well worthy to want, when others abound in plenty of good things.

CHAP. XVII.

Ornaments.

ME thinks hitherto we haue but a bare Orchard for fruit, and but halfe good, so long as it wants those comely Ornaments, that should giue beauty to all our labours, and make much for the honest delight of the owner and his friends.

For it is not to be doubted: but as God hath giuen man things profitable, so hath he allowed him honest comfort, delight, and recreation, in all the works of his hands. Nay, all his labours vnder the Sunne without this are troubles, and vexation of minde: For what is greedy gaine, without delight, but moyling, and turmoyling in slauery? But comfortable delight, with content, is the good of euery thing, and the patterne of heauen. A morsell of bread with comfort, is better by much than a fat Oxe with vnquietnesse. And who can deny, but the principall end of an Orchard, is the honest delight of one wearied with the works of his lawfull calling? The very works of, and in an Orchard & Garden, are better than the ease and rest of and from other labours. When God had made man after his owne Image, in a perfect state, and would haue him to represent himselfe in authority, tranquility, and pleasure vpon the earth, he placed him in Paradise. What was Paradise, but a Garden and Orchard of trees and hearbs, full of all pleasure? & nothing there but delights. The gods of the earth, resembling the great God of heauen in authority, Maiesty, and abundance of all things, wherein is their most delight. And whither do they withdraw themselues from the troublesome affayres of their estate, being tyred with the hearing and iudging of litigious Controuersies; choaked (as it were) with the close ayres of their sumptuous buildings, their stomacks cloyed with variety of Banquets, their eares filled & ouerburthened with tedious discoursings? whither? but into their Orchards? made and prepared, dressed and destinated for that purpose, to renue and refresh their sences, and to call home their ouer-wearied spirits. Nay, it is (no doubt) a comfort to them, to set open their Cazements into a most delicate Garden and Orchard, whereby they may not onely see that, wherein they are so much delighted, but also to giue fresh, sweet, and pleasant ayre to their Galleries and Chambers.

Delight the chiefe end of Orchards.

An Orchard delightsome.

An Orchard is paradise.

Causes of wearisomenesse.

Orchard is the remedy.

And looke, what these men doe by reason of their greatnesse and ability, prouoked with delight, the same doubtlesse would euery of vs doe, if power were answerable to our desires, wherby we shew manifestly, that of all other delights on earth, they that are taken by Orchards, are most excellent, and most agreeing with nature.

All delight in Orchards.

For whereas euery other pleasure commonly fils some one of our senses, and that onely, with delight, this makes all our sences swim in pleasure, and that with infinite variety, ioyned with no lesse commodity.

This delights all the sences.

That famous Philosopher, and matchlesse Orator, M. T. C. prescribeth nothing

Delighteth old age.

nothing more fit, to take away the tediousnesse and heauy load of three or foure score yeeres, than the pleasure of an Orchard.

Causes of delight in an Orchard.

What can your eye desire to see, your eares to heare, your mouth to taste, or your nose to smell, that is not to be had in an Orchard, with abundance and variety? What more delightsome than an infinite variety of sweet smelling flowers? decking with sundry colours, the greene mantle of the Earth, the vniuersall Mother of us all, so by them bespotted, so dyed, that all the world cannot sample them, and wherein it is more fit to admire the Dyer, than imitate his workmanship. Colouring not onely the earth, but decking the ayre, and sweetning euery breath and spirit.

Flowers.

The Rose red, damaske, beluet, and double double prouince Rose, the sweet muske Rose double and single, the double and single white Rose. The faire and sweet senting Woodbine, double and single, and double double. Purple Cowslips, and double Cowslips, and double double Cowslips. Primerose double and single. The Violet nothing behinde the best, for smelling sweetly. And 1000. more will prouoke your content.

Borders and squares.

And all these, by the skill of your Gardiner, so comely, and orderly placed in your Borders and Squares, and so intermingled, that none looking thereon, cannot but wonder, to see, what Nature corrected by Art can doe.

Mounts. Whence you may shoot a Bucke. Dyall. Musique.

When you behold in diuers corners of your Orchard Mounts of stone, or wood curiously wrought within and without, or of earth couered with Fruit-trees: Kentish Cherry, Damsons, Plums, &c. With Staires of precious workmanship. And in some corner (or mo) a true Dyall or Clocke, and some Anticke works, and especially siluer-sounding Musique, mixt Instruments and voices, gracing all the rest: How will you be rapt with delight?

Walkes. Seats.

Large Walks, broad and long, close and open, like the Tempe groues in Thessalie, raised with grauell and sand, hauing seats and banks of Camomile, all this delights the minde, & brings health to the body.

Order of trees.

View now with delight the works of your own hands, your fruit-trees of all sorts, loaden with sweet blossomes, and fruit of all tasts, operations, and colours: your trees standing in comely order which way soeuer you looke.

Shape of men and beasts.

Your borders on euery side hanging and drooping with Feberries, Raspberries, Barberies, Currens, and the roots of your trees powdred with Strawberries, red, white, and greene: what a pleasure is this? Your Gardiner can frame your lesser wood to the shape of men armed in the field, ready to giue battel: or swift running Greyhounds: or of well sented and true running Hounds, to chase the Deere, or hunt the Hare. This kinde of hunting shall not waste your corne, nor much your coyne.

Mazes.

Mazes well framed a mans height, may perhaps make your friend wander in gathering of berries, till he cannot recouer himselfe without your helpe.

Bowle Ally. Buts.

To haue occasion to exercise within your Orchard, it shall be a pleasure to haue a Bowling-Alley, or rather (which is more manly, and more healthfull) a paire of Buts to stretch your armes.

Hearbs.

Rosemary and sweet Eglantine are seemely ornaments about a Doore or Window, so is Woodbinde.

Conduit.

Looke Chap. 5. and you shall see the forme of a Conduit. If there were two or more, it were not amisse.

And

And in mine opinion, I could highly commend your Orchard, if either thorow it, or hard by it there should run a pleasant Riuer with siluer streames: you might sit in your Mount, and angle a peckled Trout, or sleighty Eele, or some other Fish. Or Moats, whereon you might row with a Boat, and fish with Nets. Riuer. Moats.

Store of Bees in a dry and warme Bee=house, comely made of Fir=boords, to sing, and sit, and feed vpon your flowers and sprouts, make a pleasant noyse and sight. For cleanly and innocent Bees, of all other things, loue and become, and thriue in an Orchard. If they thriue (as they must needs, if your Gardiner be skilfull, and loue them, for they loue their friends, and hate none but their enemies) they will, besides the pleasure, yeeld great profit, to pay him his wages. Yea, the increase of twenty Stocks or Stooles, with other fees, will keepe your Orchard. You neede not doubt their stings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongst them, you need not doubt them: for but neere their store, and in their owne defence, they will not fight, and in that case onely (and who can blame them?) they are manly, and fight desperately. Some (as that Honourable Lady at Hacknes, whose name doth much grace mine Orchard) vse to make seats for them in the Stone wall of their Orchard, or Garden, which is good, but wood is better. Bees.

A Vine ouer=shadowing a seat, is very comely, though her Grapes with vs ripe slowly. Vine.

One chiefe grace that adorns an Orchard, I cannot let slip: A brood of Nightingales, who with their seuerall notes and tunes, with a strong delightsome voice, out of a weake body, will beare you company night and day. She loues (and liues in) hots of woods in her heart. She will helpe you to cleanse your trees of Caterpillers, and all noisome wormes and flyes. The gentle Robin=red=brest will helpe her, and in Winter in the coldest stormes will keepe a part. Neither will the silly Wren be behinde in Summer, with her distinct whistle (like a sweet Recorder) to cheere your spirits. Birds. Nightingale. Robin-red-breft. Wren.

The Black=bird and Threstle (for I take it the Thrush sings not, but deuoures) sing loudly in a May morning, and delights the eare much (and you need not want their company, if you haue ripe Cherries or Berries, and would as gladly as the rest doe you pleasure:) But I had rather want their companie than my fruit. Black-bird. Thrufh.

What shall I say? 1000. of delights are in an Orchard: and sooner shall I be weary, then I can reckon the least part of that pleasure, which one that hath and loues an Orchard, may finde therein.

What is there of all these few that I haue reckoned, which doth not please the eye, the eare, the smell, and taste? And by these senses, as Organes, Pipes, and Windowes, these delights are carried to refresh the gentle, generous, and noble minde.

To conclude, what ioy may you haue, that you liuing to such an age, shall see the blessings of God on your labours while you liue, and leaue behinde you to your heires or successors (for God will make heires) such a worke, that many ages after your death, shall record your loue to your Country? And the rather, when you consider (Chap. 14.) to what length of time your worke is like to last. Your owne labour.

FINIS.

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